

ABSTRACTS OF THE 73RD ANNUAL MEETING

**March 26–30, 2008
Vancouver, BC, Canada**



SOCIETY FOR AMERICAN ARCHAEOLOGY

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Published by the
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SYMPOSIUM ABSTRACTS**[1] SYMPOSIUM · SOMETHING FOR EVERYONE: APPROACHES TO COLLABORATION WITH NATIVE AMERICAN AND FIRST NATIONS COMMUNITIES****(SPONSORED BY COMMITTEE ON NATIVE AMERICAN RELATIONS)**

Archaeologists are increasingly interested in collaborating with Indigenous communities. Only a decade ago interactions between Native Peoples and archaeologists were either mandated by law or based on necessity. However, more recently, voluntary collaboration that is mutually desired and beneficial is increasing. This session focuses on such collaborative efforts with a primary emphasis on partnerships within the Pacific Northwest region. The papers call attention to the risks, challenges, rewards, and benefits of collaboration while presenting new directions for research in the next decade and beyond. They demonstrate that there is something for everyone to gain in collaborative approaches.

[2] POSTER SESSION · SETTLEMENT FEATURES IN THE SOUTHWEST U.S.**[3] POSTER SESSION · SURVEY METHODOLOGY****[4] POSTER SESSION · SOCIAL ORGANIZATION AND INTERACTION IN THE SOUTHWEST U.S.****[5] POSTER SESSION · ISSUES IN LITHIC STUDIES****[6] POSTER SESSION · STUDIES IN AFRICAN ARCHAEOLOGY****[7] POSTER SESSION · CALIFORNIA ARCHAEOLOGY****[8] POSTER SESSION · TOPICS IN EURO-AMERICAN HISTORICAL ARCHAEOLOGY****[9] POSTER SESSION · TEACHING AND PUBLIC OUTREACH****[10] POSTER SESSION · RECAPTURING BLACKFEET HERITAGE THROUGH ARCHAEOLOGICAL RESEARCH: THE KUTOYIS BISON JUMP SITE, TWO MEDICINE RIVER, MONTANA**

A collaborative heritage research project was conducted on the Two Medicine River, Blackfeet Indian Reservation, MT, to assess potential research questions and preservation priorities at the Kutoyis bison kill site. This session presents results of preliminary work in four major objectives. First, to assess relationships between the Kutoyis site and neighboring archaeological sites. Second, to understand the function and extent of the associated driveline and rock alignments. Third, to determine the taphonomic characteristics of the bison bone bed. Last, to create an initial geoarchaeological impression of the site. This research showcases minimally invasive analytical approaches to heritage management.

[11] POSTER SESSION · NEW APPROACHES TO OLD PROBLEMS: POSTERS SPONSORED BY THE JOURNAL OF EVOLUTIONARY AND HISTORICAL SCIENCES

Archaeology can be profitably conceived as the intersection between the evolutionary and social sciences. Although approaches to this intersection vary, this focus combines the theoretical tools of evolutionary theory, the physical science techniques of biology and the subject matter of archaeology, enables researchers to explain a broad range of historical patterns and contingencies in the archaeological record. The research projects presented in this symposium are examples of the kind of work possible within this framework. These posters are sponsored by the Journal of Evolutionary and Historical Sciences, an open access journal that publishes science-based research.

[12] GENERAL SESSION · SUBSISTENCE STUDIES IN THE SOUTHWEST U.S.**[13] SYMPOSIUM · CIRCA 1530: INTEGRATING ARCHAEOLOGY AND ETHNOHISTORY IN THE ANDES**

A number of recent studies in the Andean region of South America have been models of

integrative, multi-disciplinary approaches to the understanding of Prehispanic and early vice-regal cultures. Unlike Mesoamerica, there was no tradition of writing in the Andes prior to the sixteenth century. While khipu and other forms of recording information were used by indigenous societies, these sources remain difficult of access, leaving researchers to rely, in varying degrees, on the essential, but problematic early modern sources for information on Andean life. This session considers the ways in which documentary evidence can be usefully deployed in Andean archaeology.

[14] SYMPOSIUM · NEIGHBORHOODS IN ARCHAEOLOGY: THE ASSESSMENT OF INTERMEDIATE UNITS OF SPATIAL AND SOCIAL ANALYSIS

Archaeology has privileged small units of spatial analysis (such as activity areas or domestic structures) or large units (such as regions), but has not devoted sufficient research to neighborhoods. The seat of intermediate elites, of foreign groups, or distinct social or economic units, neighborhoods are perhaps the most dynamic elements of urban sites, where identities are reinforced. In some sites they may represent the seat of the original foundational groups. This symposium will review how archaeology may define neighborhoods in sites such as Teotihuacan, Monte Albán, Xochicalco, Tlaxcala, Copán, Río Bec, La Joyanca, Mayapán and other Postclassic sites of Yucatán and the Maya highlands.

[15] SYMPOSIUM · THE POLITICS OF POPULATION REORGANIZATION

Population shifts at a variety of scales are among the most widely documented archaeological phenomenon. Ecological change and human-resource imbalances have long been explored as factors precipitating such shifts. However, population movements and organizational shifts profoundly influence political dynamics: as populations, labor, and power relations are re-organized, the potential for dramatic change is heightened, though not always enacted. The contributors to this session explore and model sociopolitical factors in past population shifts in a spectrum of prehistoric societies in Asia, North and South America, Europe, and Africa.

**[16] SYMPOSIUM · INALIENABLE POSSESSIONS IN THE ARCHAEOLOGY OF MESOAMERICA
(SPONSORED BY ARCHAEOLOGY DIVISION OF THE AAA)**

Annette Weiner drew upon Mauss's concept of objects classified as immovable among the Trobriand Islanders to formulate the concept of "inalienable wealth," in which the social identity of the owner becomes embedded in the object and forms the basis of its value. Unlike prestige models, inalienable possessions can be present within any level of socioeconomic status, be used to authenticate either individual or collective identities, and be circulated (or non-circulated) to both establish and defeat hierarchy. This symposium will address methodologies for identifying inalienable possessions in the archaeological record and present case-studies based on the above criteria.

[17] SYMPOSIUM · ARCHAEOLOGY AND THE INTERNATIONAL POLAR YEAR: PROGRESS ON SOME BIG QUESTIONS IN THE CIRCUMPOLAR NORTH

The International Polar Year (IPY) will see a concentrated burst of interdisciplinary research in 2007 and 2008, relating to all scientific fields at both Poles. A broad range of international archaeology projects will form a significant part of IPY activities, addressing issues as diverse as climate change impacts, social interactions, migrations, ethnic identities, and the relationship between history and modern peoples. This symposium will provide a snapshot of where archaeology stands midway through the IPY period, allowing presentation of initial results and also discussion of future directions in what promises to be a watershed event in circumpolar archaeology.

[18] SYMPOSIUM · FIRST NATIONS AND ARCHAEOLOGY IN BRITISH COLUMBIA: IMPLICATIONS FOR A THEORY AND PRACTICE OF INDIGENOUS ARCHAEOLOGY

First Nations and archaeologists in B.C. have had a long and at times antagonistic relationship. In recent years, these groups have been building a wary alliance marked by the emergence of Indigenous archaeologists and local stewardship solutions. This evolving relationship - primarily in the context of conflicts over resource developments - has thrust First Nations and consulting archaeologists in B.C. into the centre of ethical debates at the

forefront in global archaeology, including decolonization, intellectual property, and community-based heritage stewardship. This session will explore the B.C. experience and its wider implications for a theory and practice of Indigenous archaeology.

[19] SYMPOSIUM · CULTURAL & HISTORICAL PERSPECTIVES ON HUNTING AND GATHERING IN NORTH AMERICA

Hunter-gatherer archaeology in North America has long addressed the relationship between humans and their environments. While important, this emphasis can be expanded to include other, often neglected, dimensions of hunter-gatherer life and to approach traditional interests in ecology with greater sensitivity to culture and history. Featured are case studies throughout North America that examine ideology, social relations, gender, ethnicity, politics and art in hunting and gathering societies; that situate subsistence pursuits, hunter-gatherer responses to climate change, and adaptations within social and cultural contexts; and that propose theoretical perspectives and methodological approaches that will advance our understanding of hunter-gatherer social life.

[20] SYMPOSIUM · SOUTHWESTERN BIOARCHAEOLOGY IN 2008: CURRENT THEMES, ISSUES, AND RESEARCH TRAJECTORIES

This session presents a series of papers demonstrating the current scope of research topics, methods, and issues in Southwestern bioarchaeology. Work is conducted in academic, CRM and tribal contexts, and proceeds through the collaboration of multiple constituencies. Skeletal indications of diet and health are compared for populations and communities; nonlethal trauma and skeletal indications of intensive labor reveal gender based status differences; ancient DNA is used to reconstruct migration and settlement patterns; mortuary ritual is reconstructed through archaeological and taphonomic data. The session also addresses the critical issues of data quality, data curation, and the challenges to regional synthesis.

[21] GENERAL SESSION · WOODLAND AND MISSISSIPPIAN ARCHAEOLOGY**[22] SYMPOSIUM · SUBSISTENCE, SETTLEMENT, AND SOCIETY: FORMATIVE EAST AND SE ASIA IN COMPARATIVE PERSPECTIVE**

The symposium have three principal thematic foci: (1) discussion of final foraging economies and the transition to agriculture in East and Southeast Asia, (2) studies of early village life, and (3) the development of early hierarchical societies in this same area. Our aim is to bring together scholars with diverse backgrounds and theoretical interests to discuss and debate these issues in an explicitly comparative perspective. This panel is conceived of as not only a vehicle for greater understanding of formative Asian prehistory, but also as a theoretical and empirical contribution to a comprehensive understanding of formative society in global perspective.

[23] GENERAL SESSION · STUDIES OF GENDER AND SOCIAL IDENTITY IN MESOAMERICA**[24] SYMPOSIUM · RESIDUES OF TECHNOLOGY: EXPERIMENTAL CONTRIBUTIONS TO ARCHAEOLOGICAL INTERPRETATIONS**

Technology is a cultural universal; however, interpretations of the archaeological record are often hindered by a researchers' failure to completely understand prehistoric technologies. Experimental archaeology offers the ability to gain a more in depth understanding of prehistoric technological residues and by extension prehistoric life. This session capitalizes on the contributions of experimental archaeologists employing a variety of approaches to their research while maintaining similar standards of conduct including: (a) thorough background research, (b) experiments, based upon the archaeological record designed to answer valid archaeological questions, (c) effective implementation of experiments, (d) exhaustive data recording, and (e) meaningful interpretation of results.

[25] SYMPOSIUM · SOCIO-LEGAL CONSTRUCTIONS OF ARCHAEOLOGICAL HERITAGE: INTERSECTIONS IN RIGHTS AND REGULATIONS, OBJECTS AND CULTURES, AND IDENTITY AND INDIGENEOITY

This session addresses new directions in socio-legal scholarship at national and

international levels. The manifestations through which the remnants of the past are embedded and articulated in culture, history, and memory have intensified as legal classificatory schemes increasingly engage contemporary negotiations of heritage. There has been a growing need for both tangible and intangible archaeological heritage to be defined in and by law in order to implement protective policies, repatriation procedures, private versus public ownership rights, and cultural and intellectual property regulations. The session facilitates an understanding of how law inextricably intersects how heritage is constructed and construed.

[26] GENERAL SESSION · **STUDIES IN WOODLAND CERAMICS AND SYMBOLISM**

[27] SYMPOSIUM · **HIGHLIGHTING CONTEXT AND DIVERSITY IN THE IMMIGRANT EXPERIENCE**

Archaeological studies of minority immigrant groups in western North America have traditionally focused on issues of acculturation and ethnic continuity. However, recent data is revealing considerable diversity in material strategies of adaptation, some of which challenge the notion of simple maintenance of traditional cultural identity. Papers will explore such diversity by: expanding the range of archaeological questions asked about the lives of recent immigrants beyond acculturation; highlighting how unique local circumstances produced equally unique strategies for adapting to new socio-cultural environments; and by comparing the lives of these immigrant groups with each other and with their Anglo-American neighbors.

[28] SYMPOSIUM · **INTERDISCIPLINARY ARCHAEOLOGY ON VIKING AGE ICELAND: THE MOSFELL ARCHAEOLOGICAL PROJECT**

The Mosfell Archaeological Project (MAP) is comprised of a multidisciplinary, international team of collaborative researchers dedicated to reconstructing daily life and environmental change in a domestic setting in Viking Age Iceland. Located on a modern-day farmstead east of Reykjavik, the project has primarily focused on the excavation and virtual reconstruction of a longhouse and adjacent Christian church. Papers will cross a broad range of disciplines, reporting on research relating to issues such as textual analogy, GIS modeling, palaeoethnobotany, bioarchaeology, site preservation and soil micromorphology.

[29] SYMPOSIUM · **ANALYTICAL APPROACHES TO PALAEOLITHIC TECHNOLOGIES**

In the fortieth anniversary year of David Clarke's instrumental volume "Analytical Archaeology", the central theme of this session is the analysis of Palaeolithic technologies, whether this be metric in focus, statistical, experimental, based on reduction sequences, cladistics, raw material properties, attribute analysis, etc. The session incorporates a broad chronological and geographical range of Palaeolithic material from the Lower to Upper Palaeolithic. However, in all cases, participants are encouraged to emphasise analysis of lithic material and novel approaches used therein, rather than its mere description or archaeological "philately".

[30] SYMPOSIUM · **LANDSCAPES IN THE NORTHWOODS. CURRENT RESEARCH IN THE UPPER PENINSULA OF MICHIGAN**

Landscapes can either be viewed as reflecting interactions between human populations and the natural environment or as cultural constructions of the surrounding world. The archaeological record therefore does not only define usage of landscapes but also directs us to the social relationships between groups interacting within these landscapes. By focusing on a regional approach to the study of landscapes, this symposium attempts through the presentation of current archaeological studies in the Upper Peninsula of Michigan to provide a better understanding of the relationships between landscapes either natural or constructed and various cultural groups occupying the Northwoods of the "U.P." through time.

[31] GENERAL SESSION · **SETTLEMENT AND TECHNOLOGY STUDIES IN BRAZILIAN ARCHAEOLOGY**

[32] SYMPOSIUM · LOS PRIMEROS MEXICANOS: OLD SITES, NEW SITES AND CURRENT RESEARCH ON THE LATE PLEISTOCENE/EARLY HOLOCENE OCCUPATION OF MEXICO

Mexico's geographical significance among the ongoing debates concerning the peopling of the Americas has long been primarily considered as a vast corridor employed by the first American groups in traveling to South America. Very little is known about the initial inhabitants of Mexico, we know very little about the relationship with the extinct large Pleistocene mammals, with the Paleoindian groups of North America and with the groups of South America. The paucity of archaeological research on this topic that has been conducted in Mexico is the principal limitation. The objective of this symposium is to present the results of the ongoing investigations in both new and old sites, and to propose an integral research program for the future.

[33] SYMPOSIUM · AGRICULTURAL PRODUCTION AND SUBSISTENCE IN THE PACIFIC: RECENT ANALYSES AND INVESTIGATIONS

Ranging from dryland sweet-potato cultivation to shellfish gathering, the ecology of Pacific Islands has fostered the development of a variety of subsistence systems. This session presents the results of recent quantitative analyses of food production and harvesting. Investigators discuss methods that are relatively new to Pacific Island archaeology, such as geobiochemical and isotopic analyses, and also elaborate upon recent studies that have utilized more traditional methods such as survey, excavation, and GIS-based calculations. Implications for prehistoric demography, social structure, innovation, and ecological change on Pacific Islands are discussed.

[34] SYMPOSIUM · THE LEGACY OF CHARLES C. DI PESO: FIFTY YEARS AFTER THE JOINT CASAS GRANDES PROJECT**(SPONSORED BY SAA BOARD OF DIRECTORS)**

It has been 50 years since Charles C. Di Peso began his monumental excavations at Paquimé (or Casas Grandes), located in northwest Chihuahua, Mexico. The work opened vast new perspectives on the long-standing question of relations between Mesoamerica and the Pueblo societies of the U.S. Southwest, and Di Peso's ideas continue to be debated today. Each paper in this session takes a key Casas Grandes topic, reviews Di Peso's original interpretation and discusses how it has endured or been modified over the last five decades. The session concludes with considerations from U.S. and Mexican perspectives of Di Peso's enduring contributions.

[35] SYMPOSIUM · OXYGEN ISOTOPES AS TRACERS OF HUMAN MOBILITY

Climate, elevation, and other environmental factors affect the relative abundances of oxygen isotopes such that their ratios vary geographically. Symposium participants will address how the preservation of these ratios in tooth and bone might be used to determine the geographic origins of humans and inform about patterns of human mobility in the past.

[36] SYMPOSIUM · THE ARCHAEOLOGY AND HISTORICAL ECOLOGY OF SEALS, SEA LIONS, AND SEA OTTERS OF THE NORTH PACIFIC

Human use of coastal environments has a deep history, including some of the earliest occupants of the Americas. For over 10,000 years, humans have relied on a diverse array of aquatic resources with marine mammals representing the largest animals on the coast. Archaeological and historical perspectives provide a unique lens for understanding how people have hunted, scavenged, and impacted pinnipeds and sea otters over the long term. This session brings together archaeologists, historians, ecologists, and other scientists to understand how ancient perspectives can inform our understanding of marine mammal biodiversity, conservation, management, and natural history.

[37] SYMPOSIUM · CULTURAL HERITAGE MANAGEMENT IN LATIN AMERICA: THE DEVELOPMENT OF NEW ORGANIZATION STRATEGIES

The management of archaeological resources in Latin American countries has evolved from scarce nationally sponsored projects to local community projects actively promoted by local populations. The current trend is towards a management of archaeological resources aimed at the development of resources of a region in the spirit of economic sustainability. This session will explore several case studies that straddle the gap between independent

and successful locally-centered endeavours and the benefits to be obtained with integral plans that are sponsored as part of regional, sustainable development projects.

[38] FORUM · MOTHERHOOD, INSTITUTIONAL CHANGE, AND THE FUTURE OF WOMEN IN ARCHAEOLOGY

(SPONSORED BY WAIG- WOMEN IN ARCHAEOLOGY INTEREST GROUP)

Women have made great strides toward gender equity in archaeology, yet many still feel challenged to complete graduate studies and tenure requirements during their reproductive years. Our universities, contract companies, and professional organizations have been slow to awaken to the realities of mothers as academic and professional archaeologists. We have organized this forum to address motherhood as a matter of gender equity in archaeology, contending that the perspectives of mothers are essential to well-rounded archaeological interpretation. This forum brings together a panel of women that have established, or are trying to establish, archaeological careers while also bearing and raising children.

[39] SYMPOSIUM · THE LANDSCAPES OF LYDIA, WESTERN TURKEY: PRELIMINARY RESULTS OF THE CENTRAL LYDIA ARCHAEOLOGICAL SURVEY, 2005-2007

The Central Lydia Archaeological Survey aims to understand the approximately 350 square kilometer area of diverse landscapes surrounding the Gygaean Lake (modern Marmara Gölü) in western Turkey. Initiated in 2005, the project has employed a variety of approaches with complementary paleoenvironmental and archaeological foci to reveal evidence about the people and places of central Lydia from before the Early Bronze Age through the early modern period. Extensive and intensive survey data, aerial and satellite imagery, material analyses, paleoenvironmental reconstructions, GPS microtopography, and geophysical prospection results are integrated within a landscape archaeological framework to clarify long-term environmental and cultural dynamics.

[40] SYMPOSIUM · POSTCOLONIAL ARCHAEOLOGIES OF AFRICA

Archaeologists working in Africa struggle to realize a means of investigating the world that is cognizant of but not paralyzed by past injustices. In this session we explore the diversity of practices that inform archaeology in postcolonial Africa, creating opportunities to assess the decolonization of practice and theory by undressing continuing masquerades of doing archaeology and making history. Through case studies that amplify personal practice and experience we navigate plays of power, "voices," and conflicting representations of pasts to develop archaeological approaches that contribute to and valorize contemporary African societies.

[41] SYMPOSIUM · MANIOC, MAIZE, AND MAYA SUBSISTENCE: NEW DISCOVERIES AT CEREN, EL SALVADOR

Recent geophysical and archaeological research at Cerén focused on agriculture. The hypothesis that productive intensity would decrease with distance from the village was rejected. Intensive maize "high performance milpa" agriculture continued south of the village. The principal discovery was a manioc field that had largely been harvested and had been replanted just before the Loma Caldera eruption. Replanting was by placing the large stocks horizontally in the planting beds. Manioc productivity in calories per unit area probably was greater than any other cultigen. Manioc's minimal edaphic requirements suggest it may have been more widely cultivated than previously believed.

[42] GENERAL SESSION · PALEOINDIAN TECHNOLOGY IN THE NEW WORLD

[43] GENERAL SESSION · OBSIDIAN PRODUCTION AND USE IN MESOAMERICA

[44] GENERAL SESSION · SUBSISTENCE PATTERNS IN THE SOUTHEAST U.S.

[45] POSTER SESSION · MATERIAL TECHNOLOGIES AND MOBILITY DURING THE PITHOUSE PERIOD OF THE MOGOLLON RIM REGION, EAST-CENTRAL ARIZONA

Pithouse Period (400 BC-AD 1000) archaeology in the Mogollon Rim region has featured

prominently in discussions of the origins of Southwestern agriculture, ceramics, and sedentism. This poster session explores recent research on Mogollon Rim pithouse sites to discuss settlement stability and mobility strategies, regional ethnic interactions, and technological choices associated with emerging ceramic traditions. This session includes experimental analyses of raw materials for ceramic production, analyses and comparisons of recently collected ceramics and lithics with archived collections, and architectural and geoarchaeological analysis of recently excavated pithouses.

[46] POSTER SESSION · **SETTLEMENT PATTERNS AND LANDSCAPE USE IN THE SOUTHWEST U.S.**

[47] POSTER SESSION · **RITUALS, SACRED PLACES, AND MORTUARY PATTERNS IN MESOAMERICA**

[48] POSTER SESSION · **TOPICS IN EUROPEAN ARCHAEOLOGY - BRONZE AGE THROUGH MEDIEVAL TIMES**

[49] POSTER SESSION · **ARCHAEOLOGICAL SETTLEMENT STUDIES AT OMEY ISLAND, IRELAND - AN 18TH-19TH CENTURY FISHING VILLAGE**

[50] POSTER SESSION · **RESEARCH IN THE MIDWEST AND GREAT LAKES**

[51] POSTER SESSION · **CONTACT PERIOD RESEARCH IN NORTH AMERICA**

[52] POSTER SESSION · **INTERACTION AND IDENTITY AMONG THE STO:LO-COAST SALISH OF THE LOWER FRASER RIVER WATERSHED, SW BRITISH COLUMBIA**

The Coast Salish communities of SW British Columbia are linked through a complex network of social relations, identities, and landscapes. This is especially so for groups living on the extraordinarily resource-rich Fraser River and its tributaries. Major communication and transportation routes along these rivers supported diverse social interactions and identity-forming relations within and between watersheds. In this session, we bring together a decade of archaeological, oral historical, and linguistic research among the Sto:lo-Coast Salish. This research demonstrates a dynamic interplay of social, economic, and environmental relations supporting a long-term continuum of interaction and identity formation.

[53] SYMPOSIUM · **THE ORGANIZATION OF CORE TECHNOLOGIES: NEW PERSPECTIVES**

Published in 1987, "The Organization of Core Technology" examined bifacial, blade and expedient core technologies in relation to prehistoric settlement patterns and land use, subsistence strategies, raw material procurement, and craft specialization. This same volume also foreshadowed the development of several explanatory models of human behavior often cited by archaeologists such as raw material quality and availability, technological flexibility and reliability, and toolkit efficiency. As we move into the 21st century, we seek to examine whether our approaches to the study of core technology and the ways we explain behavioral variability have changed in the last 20 years.

[54] SYMPOSIUM · **GEOPHYSICAL ARCHAEOLOGY AT WORLD HERITAGE SITES**

World Heritage Sites, as designated by UNESCO, contain particularly important archaeological remains that have a broad appeal world-wide. As these sites are often very visible to the general public, they generate particular challenges in interpretation, preservation and often even national identities. Geophysical archaeological analysis can often aid in these endeavors by mapping otherwise invisible cultural remains preserved below ground. Placing these important sites into their environmental context using geophysics helps in an overall interpretation, defines areas that should be preserved, and allows for a more holistic analysis of past cultures. New tools for archaeological mapping will be presented at a number of these sites using a variety of near-surface geophysical methods.

[55] SYMPOSIUM · THE STONEHENGE RIVERSIDE PROJECT: NEW DISCOVERIES IN THE STONEHENGE LANDSCAPE

The Stonehenge Riverside Project is a joint initiative by five British universities which seeks to illuminate Stonehenge and its World Heritage landscape using recent conceptual and methodological developments. Fieldwork over five years has concentrated on the materiality of monuments, experiential aspects of landscape, structured deposition of materials, and the use of new archaeological technologies. This session will present the results of survey and excavation, including extensive work at the henge, avenue and settlement complex and Durrington Walls, and will provide the opportunity for a discussion with Americanist archaeologists on the investigation of monumental landscapes.

[56] SYMPOSIUM · THE RELEVANCE OF AMERICAN ARCHAEOLOGY: INTELLECTUAL AND PRACTICE-BASED CONTRIBUTIONS OF JEREMY A. SABLOFF

The career of Jeremy Sabloff, including innovative field research in the Maya region, synthesis of the history of archaeology and its place in the modern world, and his service to the professional and public sectors, is honored in this session. Colleagues discuss his contributions to the field on such topics as ancient urbanism, Maya studies, societal transformations, political advocacy, public outreach, and writing for a popular audience. His enduring concern for the relevance of the past to the present has never been more important as archaeology intersects with public education, museums and research, and indigenous communities.

**[57] SYMPOSIUM · MIDDLE HOLOCENE BEHAVIORAL STRATEGIES IN THE AMERICAS
(SPONSORED BY INQUA COMMISSION ON PALAEOECOLOGY AND HUMAN EVOLUTION)**

The middle Holocene has been characterized as a generally more arid and, at times, highly climatically variable period in prehistory in a number of regions worldwide. Human responses to middle Holocene climatic phenomena are equally varied in their expression and it is this variability that makes the period so potentially informative. While many interpretations of middle Holocene behavior have been developed, a more comprehensive understanding of human behavioral strategies may be achieved through a multinational discussion of the topic, considering a broader set of parameters, perhaps not visible at the local level.

[58] SYMPOSIUM · THE RISE OF HIERARCHICAL POLITIES IN THE NORTHERN TITICACA BASIN: RECENT RESEARCH, NEW THEORIES

While the northern half of the Lake Titicaca Basin in the south-central Andes highlands of Peru has long been known as the home of the Pukara polity - a complex chiefdom, precursor to the Tiwanaku state - investigation of the development of ranked society here is still in its infancy. Following recently increasing political stability and thus the ability to conduct archaeological research, Programa Collasuyu members have initiated a number of projects, contributing new data on the archaeological cultures of the northern basin that significantly challenge previous understanding of the processes by which increasing socio-political complexity occurred here.

[59] SYMPOSIUM · ARCHAEOLOGY WITHOUT BORDERS: RE-EVALUATING THE MESOAMERICAN/CHIBCHAN INTERFACE

The definition of the southern frontier of Mesoamerica has long been a fundamental research problem for archaeologists, and one that has never found a satisfying answer. Recently, the recognition of a Chibchan culture area in Lower Central America has generated exciting new interpretations of that region. This symposium proposes to bring together scholars working in Honduras, El Salvador, Nicaragua, Costa Rica and Panama to discuss recent research and its impact on the question of cultural boundaries. While specific case studies will comprise an important component of the data presented, participants are encouraged to think outside of the box/site to try to integrate a broader perspective.

[60] SYMPOSIUM · STATIC ABUNDANCE OR ABUNDANT STATIC? A RE-EXAMINATION OF ARCHAEOLOGICAL AND PALEOENVIRONMENTAL COMPLEXITY IN WESTERN WASHINGTON

Since the last concerted efforts to publish a synthesis of western Washington prehistory in

the 1980s, paleoenvironmental reconstruction and methodological and theoretical approaches towards linking prehistory and past environments have advanced considerably. Our ability to describe and explain the human history of this region is dependent upon acquiring and using paleoenvironmental data to reconstruct past landscapes and habitats. The papers in this symposium explore data, method, and theory that contribute to a reassessment of region's prehistory with a focus on the dynamic relationships between humans and the shorelines, rivers, and watersheds in which they lived.

[61] GENERAL SESSION · SITE MORPHOLOGY AND DISPOSAL PATTERNS IN MESOAMERICA AND CENTRAL AMERICA

[62] SYMPOSIUM · THE EARLIEST ATHAPASKANS IN SOUTHERN SOUTHWEST: IMPLICATIONS FOR MIGRATION

Archaeological, linguistic, and ethnographic data suggest that proto-Navajo and proto-Apachean groups were in the southern Southwest at least two hundred or more years before the first Spanish contact in 1540. Early evidence comes from the mountains, the front range of the Rockies, and the plains. Similarities in this earliest pre-differentiation suite of material culture traits throughout this area suggest connections are traceable to the northern homeland. Research is focused on documenting the nature, distribution, and timing of this early Athapaskan presence and attempting to trace the origin back to Canada from the south up, and from the north down.

**[63] SYMPOSIUM · ARCHAEOLOGY OF THE BAHAMA ARCHIPELAGO
(SPONSORED BY THE NATIONAL MUSEUM OF THE BAHAMAS)**

This session is a review of current archaeology ongoing in the Bahama Archipelago. It includes topics ranging from Bioarchaeology, Lucayan Archaeology, Colonial Archaeology, and Cultural Resources Management.

[64] SYMPOSIUM · THE MIDDLE ASIAN INTERACTION SPHERE

The Middle Asian Interaction Sphere" is a term used to describe the cultural, political and commercial relationships of the various ancient cultures between Mesopotamia and the Indus, Central Asia and the Arabian Peninsula as far back as the fourth millennium. Over the years, archaeological and literary evidence of mercantile networks, both overland and maritime, and the sharing of styles over great distances, has suggested the need to reconfigure our understanding of these relationships and peoples. This panel discussion is a forum for shared analysis of the MAIS's complex dynamics and developments.

**[65] SYMPOSIUM · INTERNATIONAL CURATION STANDARDS: WHAT'S WORKING, WHAT'S NOT
(SPONSORED BY THE SAA CURATION COMMITTEE)**

The need to ensure that archaeological collections and archives are accessible and useful resources is an important priority for archaeologists internationally. In the digital age many institutions are finding innovative ways to share the results of archaeology. Sometimes forward-thinking initiatives are hampered by a lack of basic infrastructure to support access to artifacts and information. There are also problems which relate to deposition such as the scale of the physical archive generated by fieldwork, including use, storage, access, discard and curation. This session will provide examples of current issues as well as those of good practice from both the Americas and Europe.

[66] GENERAL SESSION · SUBSISTENCE PATTERNS IN THE PLAINS AND ROCKY MOUNTAINS

[67] ETHICS BOWL

[68] SYMPOSIUM · SHAPESHIFTING: MATERIALITY IN NORTH AMERICA'S FIRST EUROPEAN SETTLEMENTS

This panel explores the materiality of the first European settlements in North America through architecture, material culture, theory and environmental data. Early European settlers brought traditions and material culture from their places of origin, but new circumstances required them to adapt their use of old resources and develop new ones. They learned to work with Native Americans, integrating New World technologies with Old

World objects and perspectives. Sometimes theorized as hybridity, these changes are visible archaeologically in technologies, foodstuffs, architecture, and decorative artifacts. Scholars on this panel will explore early settlers' consciousness of the world through multicultural objects and spaces.

[69] SYMPOSIUM · SPECIALIZATION, INTENSIFICATION AND DIVERSIFICATION IN ANIMAL EXPLOITATION STRATEGIES DURING THE LATE PLEISTOCENE IN THE MEDITERRANEAN BASIN

Accumulating evidence points to the emergence of new foraging strategies across the Mediterranean Basin and adjacent areas at the end of the Pleistocene. These strategies include specialized exploitation of high-ranked taxa, intensive processing of ungulate carcasses for products including marrow and bone grease, and the diversification of human diets to include low-ranked taxa such as juveniles and small-bodied, difficult-to-capture prey. The purpose of the session is to obtain a more comprehensive picture of the nature of Late Pleistocene forager adaptations, in particular their variability and the timing of their emergence in different ecological niches around the Mediterranean Basin.

[70] SYMPOSIUM · FORENSIC ARCHAEOLOGY: PAST, PRESENT, & FUTURE

"Forensic Archaeology" as a coined term is a relatively new addition to the many sub-disciplines of archaeology. Despite the newness of the field, archaeologists have aided law enforcement for decades. However, in the past 25 years, forensic archaeology has developed into a more formal discipline. At times the police still seek out archaeologists but more and more, the request is for a "forensic archaeologist." This session aims to explore forensic archaeology from its humble origins, through to its current state, and questions where it will be headed in the future.

**[71] SYMPOSIUM · RECENT ADVANCES IN ROCK ART RESEARCH
(SPONSORED BY ROCK ART INTEREST GROUP)**

The symposium is intended to provide a framework within which recent rock art research can be shared without regard to geographic or temporal restraint. The session is sponsored by the SAA's Rock Art Interest Group.

[72] SYMPOSIUM · INSIDE-OUT: THE ROLE OF CONTINGENCY AND EXPERIENCE IN 'DOMESTIC' CONSTRUCTION

Much of what is meant by the term domestic follows the human ability to make the world fit and tractable for consumption. But to what extent is this merely a contradistinction - a product of modern (Cartesian) thought? Can it more accurately be said, following the work of Tim Ingold, that the domestic arises from the relational and practical engagements of people with their surroundings? In what ways do built forms provide a constitutive and performative domain for being alongside their more metered response to environmental conditions? How can we imagine past settings beyond the constraints of our own built forms?

[73] SYMPOSIUM · INTERACTION AND SOCIETY: PERSPECTIVES ON COAST-HIGHLAND RELATIONSHIPS IN THE ANDES

This symposium considers interregional interactions on the western slopes of the Andes and their impact on local cultural developments and trajectories. Interaction refers to a wide range of practices, such as warfare, trade, stylistic interchange, politics, and so on that are fundamental to social complexity. In the Andes, the relationships between the Pacific coast and the highland regions were particularly critical due to unique contrasts in environment zones, terrains and resources. Zones were exploited and often contested, and shifts in interaction had repercussions on patterns of material culture and social organization. The session aims at assessing the forms, contents and meanings associated with coast-highland interaction and its implications for Andean social complexity. A range of material correlates and time periods in current research will be treated, so that long-term patterns and transformations can be compared and elucidated.

[74] SYMPOSIUM · INTERDISCIPLINARY STUDIES OF ARCHAEOLOGICAL OBJECTS: ARCHAEOLOGY, MATERIAL SCIENCE AND CONSERVATION

The main goal of this symposium is to show how the archaeological objects constitute a

rich repository of information that can be revealed through specific analyzes and by diverse scientific disciplines. We will discuss an array of topics from specific archaeological objects produced in Mexico; dealing with the identification of their constituent elements/raw materials, their chemical composition, their sources of origin, the possible forms in that the raw materials were obtained (trade, exchange and tribute), the effort involved in their acquisition and transformation, and the manufacturing techniques. Finally symbolic and iconographic aspects and some conservation treatments will be approached.

[75] SYMPOSIUM · HOMININ BEHAVIORAL VARIATION DURING THE PLEISTOCENE AND EARLY HOLOCENE IN EAST ASIA AND AUSTRALASIA

Eastern Old World Pleistocene and Early Holocene hominin behavior was different in many ways from the West. The primary goal of this symposium is to present a series of papers from leading authorities that synthesizes the current state of evidence of hominin behavioral variation in East Asia and Australasia during the Pleistocene and into the Early Holocene. Papers will include discussion of early hominin migration routes in East Asia, analyses of stone toolkits, vertebrate taphonomic investigations, and megafaunal extinctions in Australasia. These papers will facilitate a more comprehensive understanding of Pleistocene and Early Holocene hominin behavior in East Asia and Australasia.

[76] SYMPOSIUM · AUTHORITY AND THE PROCESS OF POWER: THE VIEW FROM AFRICAN ARCHAEOLOGY

The papers in this session examine aspects of power in the archaeology of the African past. Archaeological examinations of power on the continent have often focused on the negotiation of authority and the ongoing processes of legitimization performed by individuals and groups. We extend these insights by examining the relationship between power and authority. Authority, we argue, is continuously created and reaffirmed through instantiated acts, which can form the subject matter of archaeological inquiry. Individual papers will examine forms of cultural production that are involved in the translation of power into authority, such as landscapes, material culture and imperial practices.

[77] SYMPOSIUM · IDENTIDADES Y CULTURA MATERIAL EN MESOAMÉRICA

El objetivo particular es mostrar la importancia que ha adquirido recientemente, en la interpretación antropológica-arqueológica, la reconstrucción de las identidades, a través del estudio de la cultura material, en contextos prehistóricos, históricos y contemporáneos. Especialmente nos interesa mostrar cómo la vida social está marcada por experiencias individuales y sociales de corporalidad, género y etnicidad y cómo se manifiestan estos aspectos a través de la cultura material de distintos pueblos del área mesoamericana. También se les invita a discutir las contribuciones de la antropología al debate posmoderno con respecto a la teoría y la actitud autoreflexiva sobre la identidad y señalar el papel que juega la arqueología en la construcción de otros grupos, es decir, observar de qué manera conceptos como etnicidad, género e identidad grupal han sido empleados para el estudio de la alteridad en sociedades y culturas de Mesoamérica.

**[78] FORUM · DIGITAL ANTIQUITY: PLANNING AN INFORMATION INFRASTRUCTURE FOR ARCHAEOLOGY
(SPONSORED BY SAA BOARD OF DIRECTORS)**

The utility of archaeological data is severely diminished by its inaccessibility. Archaeology needs to take transformative steps to develop an information infrastructure that can provide Internet access to archaeological research documents, databases, and images. This infrastructure will require software development, a management structure and financial model, and real commitment by practicing archaeologists. Archaeoinformatics.org has been funded to develop a plan for such an information infrastructure. This forum offers an opportunity for discussion of the desirable capabilities of the infrastructure, how it should be managed and funded, and how the discipline can best be engaged in its development and use.

[79] ELECTRONIC SYMPOSIUM · CELESTIAL REFERENCES IN MESOAMERICAN CREATION STORIES

An exciting breakthrough in our understanding of Maya creation stories occurred in the

early 1990s with the demonstration that much of what is recorded in mythological texts concerns events featured in the nighttime sky on certain key dates. This symposium focuses on recent research aimed at documenting celestial references in prehispanic hieroglyphic and Colonial Maya texts concerned with creation, as well as on critiquing the methodology employed in this endeavor. Specifically, we address the issue of how to make meaningful synchronic and diachronic connections between different Mesoamerican myths in a methodologically defensible way.

[80] SYMPOSIUM · THE LATE ARCHAIC IN THE FAR SOUTHWEST: NEW DATA AND NEW INTERPRETATIONS

The time between 2150 and 900 BP in southern California, Arizona, and Nevada represents one of the most significant culture changes in western North America. This period, usually referred to as the Late Archaic or Preceramic, is marked by the shift from spearthrower to bow and arrow technologies, preliminary uses of ceramics, and a hypothetical influx of Numic speakers into the region. Research over the last 20 years, largely conducted by CRM firms and government institutions, has produced a substantial amount of data. The present session aims to discuss and synthesize these data, offering a revised prehistory of the region.

[81] GENERAL SESSION · ADVANCES IN METHODOLOGY: SURVEY TECHNIQUES, COMPUTER USE, AND INTERPRETATION

[82] SYMPOSIUM · THE CEMETERY ON THE HILL: EXCAVATIONS AT LOS ANGELES' FIRST CITY CEMETERY

An overlooked and largely untold part of Los Angeles' beginning is the story of City Cemetery. The cemetery was officially moved in the early 20th century. However, recent excavations exposed remnants of 173 burial features, many containing human remains. Research has focused on determining the identities of the remains through a combination of archival research, artifact analysis, osteological studies, and GIS technology. The research provides a better understanding of the role of City Cemetery in mid to late 19th-century Los Angeles, Victorian-era mortuary practices on the West Coast, and patterns of health and socioeconomic status within the cemetery population.

[83] GENERAL SESSION · RECENT RESEARCH ON THE PERUVIAN COAST

[84] GENERAL SESSION · RESEARCH ON ANCIENT MAYA SALT PRODUCTION

[85] SYMPOSIUM · LOOTING AND ITS SIGNIFICANCE FOR FUNERARY ARCHAEOLOGY

Burial disturbances represent one of the most problematic aspects of mortuary archaeology. Looting, complex mortuary practices, and natural disturbances may be perceived as a limiting factor for archaeological interpretation. Disturbances, however, offer a unique chance to study the attitudes towards the dead. This symposium will bring together specialists on mortuary archaeology and bioarchaeology to discuss looting in stateless societies. The papers will attempt to clearly define looting, suggest the effective ways to identify it in the mortuary archaeological record, and discuss the significance of looting for understanding the attitudes towards the dead.

[86] GENERAL SESSION · NEOLITHIC SUBSISTENCE IN EUROPE AND THE NEAR EAST

[87] POSTER SESSION · ARCHAEOOMETRY AND ARTIFACT STUDIES IN MESOAMERICA AND MIDDLE AMERICA

[88] POSTER SESSION · RECENT RESEARCH IN THE ANDEAN HIGHLANDS

[89] POSTER SESSION · SOUTHWEST U.S. SUBSISTENCE AND RESOURCE UTILIZATION

[90] POSTER SESSION · TOPICS IN ETHNOBOTANY

[91] POSTER SESSION · METHODS AND ADVANCES IN ZOOARCHAEOLOGY

[92] POSTER SESSION · INNOVATIONS IN CERAMIC ANALYSIS**[93] POSTER SESSION · TOPICS IN THE ARCHAEOLOGY OF THE EASTERN U.S.****[94] POSTER SESSION · TOPICS IN PALEOLITHIC RESEARCH****[95] SYMPOSIUM · ADVANCES IN THE STUDY OF LITHIC MORPHOLOGY**

Stone tool technology is one of the most durable and studied materials reflecting prehistoric human culture. Moreover, issues related to lithic morphology have been key in archaeological discussions since the early 20th Century. This topic continues to intrigue archaeologists in part due to its capacity to bypass analytically imposed categories, but also because morphology and morphological dynamics are inherent traits that can potentially elucidate cultural variation and track long term cultural change. This symposium embraces a wide range of analytical techniques geared towards furthering the archaeological understanding of lithic morphology. The similarly broad geographic foci are reflective of the global importance and potential of lithic morphology studies to enhance archaeological understanding of prehistoric cultural variability.

[96] ELECTRONIC SYMPOSIUM · MODELLING EARLY METALLURGY: OLD AND NEW WORLD PERSPECTIVES

Despite decades of scholarly research on ancient metal technology, we still lack suitable models to place the earliest use and production of metals into their socio-cultural contexts. In this session, sixteen papers by current scholars on the early adoption of metals and metallurgy over five continents will be discussed. Although these case studies are entirely different in terms of their technological backgrounds, cultural contexts, and societal organization, they provide contrasting examples of how human societies can adopt and adapt to new technologies and materials.

[97] GENERAL SESSION · RESEARCH AT MESOAMERICAN POLITICAL CENTERS**[98] SYMPOSIUM · INTERACTION, INNOVATION AND SOCIAL CHANGE: THE PARACAS-NASCA TRANSITION**

The south Central Andean coast hosted development of methods for the study of artifact style, temporal sequence and regional differentiation. However, the time-space grid has not fostered studies of social organization, regional integration and historic process. Poised between master sequences and including the late Paracas, Topara and early Nazca artifact traditions, nonetheless this period demonstrates continuities in site occupation. Habitation and mortuary assemblages provide evidence of exchange among diverse populations, long-distance resource procurement, innovations in artifact technology and style, and sociopolitical change. We propose strategies drawing on archaeological data to address social relations, practices and processes in this "transitional" period.

[99] GENERAL SESSION · METHODOLOGICAL ADVANCES IN BIOARCHAEOLOGY**[100] SYMPOSIUM · NICHE CONSTRUCTION THEORY AND ARCHAEOLOGY**

Niche construction theory (NCT) is a recent development in evolutionary biology referring to the evolutionary process whereby an organism modifies its environment in potentially advantageous ways. Moving beyond traditional evolutionary theory, NCT shows how organisms actively shape their environments, highlighting a third dimension of evolutionary inheritance. NCT is gaining acceptance in mainstream evolutionary biology and has recently been incorporated in debates about hominin evolution. The archaeological record provides the temporal depth necessary to document instances of human niche construction generally unavailable to other disciplines. This session brings together archaeological case studies from various geographical and temporal contexts rooted in NCT.

[101] SYMPOSIUM · FORAGERS ON THE EDGE: A GLOBAL PERSPECTIVE ON DIET BREADTH AND SPECIALIZATION IN ARID ZONES

Diet specialization among hunter-gatherers in arid environments is unique from temperate

zones, where many models for increasing specialization have originated. Here, species distribution is often patchy and abundant resources may be available on a strictly seasonal basis. Responses to episodes of environmental stress, sedentism, demographic growth or even climatic amelioration, are more immediate, while the utilization of prime resources is more intense. Studying the nature of specialization in "marginal" settings allows for a clearer understanding of changing human adaptation in arid environments and draws attention to similarities in the types of resources most abundant and/or reliable under varying conditions.

[102] SYMPOSIUM · ENVISIONING THE CAVEscape: CURRENT RESEARCH ON THE MULTIFACETED ASPECTS OF CAVE UTILIZATION BY ANCIENT MAYA PEOPLE

Over the last century, archaeological, ethnographic, and epigraphic studies have provided evidence for the ancient use of caves in the Maya area. Early investigations evinced some utilitarian functions but overwhelmingly ritual use of caves, while recent studies have begun to focus on the distinct types of activities and performances that took place in the subterranean realm. The papers in this symposium represent further scrutiny of the differential use of spaces within individual caves and across regions. These efforts collectively embody an inquiry into the multifaceted nature of "Cavescapes", an integral part of ancient Maya religion and sacred landscape.

[103] FORUM · RAISING THE PROFILE: INCREASING PROTECTION FOR ARCHAEOLOGICAL RESOURCES AT THE LOCAL LEVEL

(SPONSORED BY SAA GOVERNMENT AFFAIRS COMMITTEE)

Much of the nation's archaeological heritage lies outside the scope of federal or state jurisdiction and is therefore not covered by existing preservation law. In increasing numbers, local governments are addressing this deficiency by adopting policies and passing preservation ordinances that require consideration of impacts to archaeological sites as part of development review and approval. The Government Affairs Committee will host a forum to discuss the growing need for effective ways of promoting and strengthening local protections for archaeological resources.

[104] GENERAL SESSION · SETTLEMENT PATTERNS IN THE SOUTHWEST U.S. AND SONORA

[105] GENERAL SESSION · RESEARCH IN THE NORTHWEST U.S.

[106] GENERAL SESSION · ARCHAEOLOGY IN EAST AND SOUTHEAST ASIA

[107] GENERAL SESSION · ISSUES IN CULTURAL RESOURCE MANAGEMENT AND HISTORIC PRESERVATION

[108] SYMPOSIUM · CONSIDERATION FOR ARCHAEOLOGICAL PROPERTY DURING MILITARY CONFLICT

During global military operations, archaeological property is at risk from looting, combat, bivouac, infrastructural improvements, and contracted projects. Site protection requires root cause analysis for damage, commitment to preservation made at the highest levels, interdisciplinary cooperation, and partnership between the military archaeological community and subject matter experts from every country where heritage sites could be put at risk. This session speaks to initiatives that have been developed to address these issues and focuses on intensive education and sophisticated planning as potential solutions.

[109] SYMPOSIUM · SOILS AND MAYA ARCHAEOLOGY

(SPONSORED BY SOCIETY FOR ARCHAEOLOGICAL SCIENCES)

This is a session of papers by senior and junior scholars presenting new and ongoing research on soils in archaeology from several projects across the Maya Lowlands from Yucatan, Mexico to Belize, Guatemala, and Honduras. These include soil studies of wetland and upland agriculture, soil chemical prospection around sites, sediment cores, evidence for soil erosion and sedimentation, and the interactions of soil, plant, and water chemistry. Techniques range from traditional excavation, analyses of artifacts and ecofacts, and dating to a range of emerging chemical procedures.

[110] GENERAL SESSION · PLANT USE, AGRICULTURE, AND WETLAND RESOURCES IN MESOAMERICA AND MIDDLE AMERICA**[111] SYMPOSIUM · BEFORE THE FORMATIVE: RECENT RESEARCH AT RED MOUNTAIN, LATE ARCHAIC, AND EARLY AGRICULTURE SITES IN ARIZONA**

Information from sites in southern and central Arizona provide new insights into Late Archaic and Early Agriculture settlement, subsistence, and material culture. Recent investigations are brought together in this session that explores the variability of the regional phenomena in terms of architecture, subsistence, and local adaptations.

[112] GENERAL SESSION · STUDIES OF SYMBOLISM, RITUAL, AND ART IN MESOAMERICA**[113] GENERAL SESSION · SUBSISTENCE AND SETTLEMENT PATTERNS ON THE GEORGIA COAST****[114] GENERAL SESSION · THE ARCHAEOLOGY OF SPANISH CONTACT ACROSS THE U.S.****[115] SYMPOSIUM · DIRECT AND INDIRECT EVIDENCE OF PLANT EXPLOITATION DURING THE NATUFIAN**

The question of plant exploitation behavior during the Natufian constitutes a long standing debate. Whereas many researchers agree on the importance of plants in the Natufian diet, plant exploitation strategies are still debated. During this session we would like to explore the various types of archeological evidence for plant exploitation available for the Natufians, considering both direct (e.g. phytolith, macro-remains) and indirect (e.g. lithic and bone tools, analysis of human remains) evidence. Our objective is to discuss the various data sets, methods, and interpretations in order to shed more light on Natufian plant management strategies.

[116] SYMPOSIUM · COASTAL RESOURCE EXPLOITATION IN THE EARLY/MID HOLOCENE: A STABLE ISOTOPE PERSPECTIVE

Research into the timing, nature and extent of coastal resource exploitation in the Early-Mid Holocene is expanding due to a combination of new theoretical and methodological advances. Theoretically, consideration is again being given to coastal routes of colonisation of new lands, while later ethnographic accounts emphasise the greater sociocultural complexity often attained by coastal groups. Methodologically, the difficulties presented by the loss of much of the coastline as a result of rising sea levels have been partially overcome by the combination of radiocarbon and stable isotope analyses of human remains. This session explores new advances in this area from a world-wide perspective.

[117] GENERAL SESSION · ADVANCES IN FAUNAL AND ETHNOBOTANICAL ANALYSIS**[118] GENERAL SESSION · ARCHAEOLOGY IN THE SOUTH AMERICA'S SOUTHERN CONE****[119] GENERAL SESSION · CRAFT PRODUCTION AND CRAFTSMANSHIP IN SOUTHWESTERN ARCHAEOLOGY****[120] GENERAL SESSION · ARCHAEOLOGICAL RESEARCH IN THE GREAT BASIN****[121A] WORKING GROUP · CURRENT ARCHAEMETALLURGICAL RESEARCH IN MESOAMERICA: NEW APPROACHES, DISCOVERIES AND PERSPECTIVES**

This working group focuses on archaeometallurgical investigations in Mesoamerica that have recently been completed or are currently being conducted throughout the region. Discussions will revolve around the varied roles metal objects played in social systems throughout Mesoamerica and the significance metal objects had for the people who made, used and traded them. Specific themes include the nature of craft production, long-distance trade, and the integration of metallurgy into local and regional economies. Data will be presented on the archaeological contexts in which metal artifacts have been found and the evidence for technological processes involved in metal production or manipulation throughout Mesoamerica.

[122] POSTER SESSION · CULTURAL HERITAGE AND CULTURAL RESOURCE MANAGEMENT - NORTHWESTERN NORTH AMERICA

[123] POSTER SESSION · **THE ORIGINS OF MODERN HUMANS IN SOUTHERN TANZANIA**
The continent of Africa was the place of origin of anatomically modern Homo sapiens, sometime around 200,000 years ago at the start of the Middle Stone Age. By the time that modern humans dispersed into Eurasia around 40,000 years ago, they have achieved a wide range of technological and behavioral innovations. The processes underlying this cultural transformation is not well understood. Initial archaeological fieldwork in rockshelters in the Irlinga Region of south-central Tanzania has revealed an occupational history that spans this fundamental transformation in human history.

[124] POSTER SESSION · HISTORICAL ARCHAEOLOGY - SLAVERY AND PLANTATION STUDIES**[125] POSTER SESSION · CULTURAL HERITAGE AND CULTURAL RESOURCE MANAGEMENT IN THE SOUTHWEST U.S.****[126] POSTER SESSION · ARTIFACTS, SETTLEMENT, AND SOCIAL IDENTITY IN THE SOUTHWEST U.S.****[127] POSTER SESSION · ARCHAEOLOGICAL RESEARCH IN NORTHEASTERN NORTH AMERICA****[128] POSTER SESSION · NEW WORLD PALEOINDIAN STUDIES****[129] POSTER SESSION · MISSISSIPPION ARCHAEOLOGY****[130] POSTER SESSION · HISTORICAL ARCHAEOLOGY: HEALTH, DEMOGRAPHY, AND MORTUARY PATTERNS****[131] POSTER SESSION · RECENT RESEARCH IN THE ANDEAN COAST**

[132] POSTER SESSION · **WESTERN SCIENCE AND CULTURAL CERTAINTY: MATERIAL STUDIES**
The posters in this session use standard archaeological methodologies and avenues of inquiry to investigate data gathered by archaeologists. From a Western Scientific perspective, the relevance of these studies may be questionable. While Western Scientists may find these analyses inappropriate; that reaction mirrors how Descendant Communities often feel when reading and reviewing archaeological reports and scholarly papers. It is our hope that archaeologist will take away a greater understanding of alternate perspectives of material culture and how it informs of understanding of cultural systems.

[133] POSTER SESSION · RECENT WORK AT KEATLEY CREEK AND THE SURROUNDING MID-FRASER REGION OF BRITISH COLUMBIA

The complex hunter-gatherer groups of the Mid-Fraser Canyon of South Central British Columbia have played a prominent role in our quest to understand the internal dynamics involved in the emergence of inequalities and complex societies. Over 20 years of work at Keatley Creek, the largest pithouse village in the region, has provided significant contributions in this area. This session is intended to present recent work undertaken at Keatley Creek, new theoretical orientations in the interpretations of the site, new methods being developed to refine our understanding of pithouse stratigraphy, and recent work from the surrounding region.

[134] SYMPOSIUM · SOCIALLY EMBEDDED VIOLENCE IN THE ANCIENT AMERICAS: BEYOND SACRIFICE AND CANNIBALISM

Archaeological studies of violence in the Americas have emphasized documenting the existence of such factors as warfare, raiding, human sacrifice, and cannibalism. Ethnohistoric and ethnographic sources, however, remind us of socially significant contingent actions linking violence to indigenous notions of service, death, and regeneration. Worldviews are complex, and at issue here are the indigenous cosmologies

and philosophies that provide the basis for socially conditioned behavior. In this symposium, we step beyond the essentialized "fact" of socially embedded violence, and focus upon the worldview contexts within which such behavior was developed, maintained, and transformed.

[135] GENERAL SESSION · NEW APPROACHES TO STUDYING SOCIAL CHANGE**[136] SYMPOSIUM · SEX, CAVES, AND COSMIC MONSTERS: PAPERS IN HONOR OF ANDREA STONE**

Andrea Stone's contributions to the scholarship of ancient Mesoamerica are many and varied, including the zoomorphs and cosmic monsters of Quirigua, the iconography of foreigners at Piedras Negras, issues of sacrifice and sexuality in Classic Maya art, and the underworld imagery of Maya cave painting. Throughout this diverse work, she has skillfully applied methods from art history, archaeology, and epigraphy, demonstrating the rewards of a multidisciplinary perspective. The papers in this session, which build upon the insights of Andrea Stone or celebrate her continuing legacy, are designed to highlight her on-going contributions to the field of Mesoamerican studies.

[137] SYMPOSIUM · PARALLEL WORLDS: INTERDISCIPLINARY AGENT-BASED MODELS OF SOCIOECOLOGICAL PROCESSES AND COMPLEXITY

From their introduction into archaeology over a decade ago, agent-based models (ABM) are beginning to become a more standard part of the repertoire for calibrating our understanding of the archaeological record. They do this constructing "parallel worlds" that behave according to whatever rules we specify. Once we understand what a world created by a specific ruleset should look like, we are in a better position to understand the archaeological record as it confronts us. This symposium collects ABMs by leading practitioners working on a variety of topics in several areas of the world to showcase their variety and utility.

[138] SYMPOSIUM · RECENT DISCOVERIES IN THE PREHISPANIC AND EARLY COLONIAL ARCHAEOLOGY OF CHOLULA AND PUEBLA, MEXICO

The past few years have witnessed an explosive burst of archaeological activity in Cholula and Puebla. Recent projects have made many significant discoveries, contributing important new data and interpretations, often challenging previous interpretations. The papers span a period of almost two millennia and touch on a wide range of empirical and theoretical topics.

[139] SYMPOSIUM · SHELL MIDDEN BIOARCHAEOLOGY ACROSS THE ATLANTIC: FOCUS ON CULTURE

As a wide spread phenomenon in coastal areas on both sides of the Atlantic, shell middens are an important source of information on sedentary or semi-sedentary hunter-gatherers-fishers. Shell middens and "sambaquis" are cultural structures produced by remnants of biological entities, and as such they should be amenable to biological analyses aimed at discerning cultural phenomena. Some bioarchaeological questions we would like to explore are: environmental impact on cultural phenomena; cultural sanction of biological assortments; buried bodies as expressions of material culture, and many more specific ones that arise from individual archaeological experiences of zooarchaeologist, human osteologists and paleoethnobotanist working on shell middens on both sides of the Atlantic.

[140] SYMPOSIUM · THE CHACO STRATIGRAPHY PROJECT: ONGOING RESEARCH AND PRELIMINARY RESULTS

The Chaco Stratigraphy Project is a multidisciplinary research program designed to address stratigraphic problems associated with the archaeology of Chaco Canyon, New Mexico. Presentations in this session provide an overview and preliminary assessment of fieldwork and artifact analysis associated with the re-excavation of archaeological trenches at Pueblo Bonito that were originally excavated by the National Geographic Society in the 1920s.

[141] SYMPOSIUM · HISTORICAL ECOLOGY AND THE LANDSCAPE APPROACH: CHANGING PERSPECTIVES ON THE DEVELOPMENT OF SOUTHEAST ASIAN COMPLEXITY

Although archaeology is a relatively young discipline in Southeast Asia, recent research has revealed robust evidence concerning the development of agricultural societies and social complexity. Previous interpretations of these phenomena have usually stressed data from individual sites, often emphasizing the most recent excavation. Understanding regional development and cultural variability has been downplayed. Incorporation of historical ecology and the landscape approach into interpretations of agricultural and social development will facilitate examination of the interplay of human societies with their social and natural environments. This session explores current research examining the dialogue between past Southeast Asian societies and their landscapes.

[142] SYMPOSIUM · CONTACT ERA ARCHAEOLOGY OF THE LOWER COLUMBIA RIVER VALLEY

The Lower Columbia River Valley was a focus of European and Euroamerican exploration, trade, and settlement in the Pacific Northwest. Until recently, documents have been the primary source of data about this period. Archaeological research has now developed rich evidence for the contact era. This symposium presents archaeological studies of contact era dynamics within and between Native, European, and Euroamerican communities in the region. Topics include contact period developments in Native land-use practices, the role of Euroamerican trade in Native society and economy, the effects of contact on Native household organization, and socioeconomic organization within the fur trade community.

[143] SYMPOSIUM · HUNTER-GATHERER TRANSITIONS THROUGH THE YOUNGER DRYAS: A GLOBAL PERSPECTIVE

Younger Dryas (late-Pleistocene) climates and environments varied globally. Accordingly, we expect that hunter-gatherer responses to this event depended on how the Younger Dryas played out in their specific region. However, there has not been a broad-based effort to examine the effects of the Younger Dryas in different regions and how (or whether) late-Pleistocene hunter-gatherers responded to these changes. Such an effort is the goal of this symposium, and will show the variety of late-Pleistocene hunter-gatherer responses to differing climatic and environmental changes that can be compared, contrasted, and analyzed for underlying patterns.

[144] GENERAL SESSION · STUDIES OF SPATIAL ORGANIZATION AND CERAMIC EXCHANGE AT MESOAMERICAN SETTLEMENTS**[145] GENERAL SESSION · CULTURAL HERITAGE AND ARCHAEOLOGY IN THE NORTHWEST COAST, CANADA, AND THE ARCTIC****[146] GENERAL SESSION · HISTORICAL ARCHAEOLOGY IN THE CARIBBEAN****[147] SYMPOSIUM · BEYOND WARI WALLS: EXPLORING THE NATURE OF MIDDLE HORIZON PERU AWAY FROM WARI CENTERS**

The Middle Horizon (600-1000 AD) was a time of profound social changes throughout Peru. These changes were due in part to the expansion of Wari influence, a state located in the central sierra. Our understanding of the nature of this expansion has been based largely on the results of investigations in and around a handful of settlements that have been conceived of as Wari administrative centers. In this session, participants move beyond the shadows of these centers in order to provide a richer understanding of the Middle Horizon and the role of Wari during tumultuous times.

[148] SYMPOSIUM · THE EMERGENCE OF HUNTER-GATHERER COMPLEXITY IN SOUTH FLORIDA

At contact, south Florida was dominated by powerful, nonagricultural, tribute-based polities like the Calusa that rivaled Mississippian chiefdoms in their complexity and longevity. Beginning 5,000 years earlier, coastal foragers established complex political hierarchies and engineered an unparalleled landscape of massive earth and shell work complexes, canals and transportation corridors. The peninsula's well-preserved archaeological record represents an ideal laboratory for the study of subtropical complex hunter-gatherers. Drawing evidence from architecture, craft production, ethnohistory, fauna,

paleoethnobotany, and settlement pattern data sets, this symposium explores the processes behind the emergence of sociopolitical complexity among the hunter-gatherers of south Florida from the Archaic through the Proto-historic period.

[149] SYMPOSIUM · NEW VIEWS ON ANCIENT AFRICA-PAPERS IN HONOR OF C. GARTH SAMPSON

Garth Sampson continues to apply his curious mind to archaeological problems in diverse locations around the world. The roots of that curiosity and its most frequent application are in his African home. From his undergraduate days in Cape Town to Cambridge, Oxford, Oregon and SMU, the pattern of questioning, fieldwork, and publication was firmly established and the breadth of African archaeology is the better for it. On the occasion of his "retirement" from SMU his students, colleagues, and friends honor him with a set of papers that explore diverse African archaeological topics.

[150] SYMPOSIUM · SOME ARCHAEOLOGICAL CHIMERAS IN THE INVESTIGATIONS OF ANCIENT MEXICO

Mexican archaeology faces a series of dogmas inherited from the archaeologists who preceded us, which, we have not been able or wanted to rectify. For example, Teotihuacan was the mythical Tollan; later it was decided that Tula was the place. Other historical myth is that Taj was built by the Totonacs, in both cases there is a great division among specialists. Almost each researcher maintains some discord, if not a rebuttal, with respect to some subject within its area of specialization. In the symposium we set out to express, examine and in its case amend some of these chimeras.

[151] FORUM · HERITAGE VALUES AND VALUING HERITAGE: CONSIDERING THE (DIS)CONNECTS AMONG THE PAST, PRESENT, AND FUTURE

(SPONSORED BY PUBLIC EDUCATION COMMITTEE)

How does contemporary society value the past? Can and, if so, how should such valuations be defined, measured, and applied to public policy, management, spending, training, and education? This session examines the practical concerns and theoretical underpinnings central to our understanding of archaeological heritage. Dialogue explores the ways in which heritage is constructed and construed and to what extent that composition coheres with or contradicts value systems ingrained in diverse discourses, such as national paradigms, international standards, management schemes, collective memory, and shared or dissonant identities. The session therefore probes the derivation and ascription of value.

[152] SYMPOSIUM · NEW DIRECTIONS IN COASTAL CALIFORNIA ARCHAEOLOGY

Archaeological research along the California coast has revealed the importance of this area from the early Holocene through the Historic period. This session offers a range of perspectives that examine issues integral to the development of maritime cultures along the eastern Pacific shoreline. Past research in this geographic area has provided a baseline for tracking general patterns of subsistence, settlement, and cultural change over the last 10,000 years. Current research is providing new data which requires refinement and reevaluation of our current understanding of the history of the human occupation of coastal California.

[153] SYMPOSIUM · THE PREHISTORY OF IBERIA (NEOLITHIC TO IRON AGE) AND THE DEBATE ON THE FORMATION OF HIERARCHICAL SOCIETIES AND THE STATE

One of the main ongoing debates in the history of Iberian Prehistory has been the formation of the state. In this discussion, the definition of state and the social and historical processes involved in its rise have been relevant, and have driven a large part of the empirical research undertaken. In this symposium, the validity of this debate, as well as the avenues that it opens for the future of the research, will be addressed through a series of case studies from throughout the Iberian Peninsula.

[154] SYMPOSIUM · FROM THE PECOS TO THE PALEOLITHIC: PAPERS IN HONOR OF ARTHUR J. JELINEK

Arthur J. Jelinek's major role in lithic analysis and archaeological computerization has so far

influenced two generations of scholars. His recognition of the 'Frison effect' helped establish the concept of lithic reduction and its interpretive implications for Pleistocene to Holocene assemblages across North America, Europe, Africa, Australia, and Asia. He established the importance of computerization with his work at Tabun (late 1960s and early 1970s), accurately gauging the future direction of excavation methodology. Beyond this, he also worked with surface and pottery assemblages. This symposium features studies by those whom Jelinek mentored, highlighting his contributions to archaeological method and theory.

[155] SYMPOSIUM · (RE)CONSTRUCTING IDENTITY: THE ARCHAEOLOGY OF THE PACIFIC COAST AND HIGHLANDS OF CHIAPAS AND GUATEMALA

This session explores the methodological and theoretical challenges of understanding identity through archaeological remains. The geographic focus is the Pacific Coast and Highlands of Chiapas and Guatemala where from the Preclassic to the Postclassic interactions between local communities and the Olmec, Teotihuacanos, and Aztec to name only a few groups, have left a lasting mark on the archaeological record in these regions. The situational and fluid nature of identity and the static nature of the archaeological record continue to challenge archaeologists working in these regions in their efforts to (re)construct ethnicity, gender, class, and other identities that cross cut these larger categories.

[156] SYMPOSIUM · RECENT APPLICATIONS OF GEOCHEMICAL TECHNIQUES IN POLYNESIAN ARCHAEOLOGY

This session presents recent research applying geochemical techniques to archaeological data recovered from Polynesia. The majority of this research has applied XRF to obsidian and basalt material. However, other techniques have been employed to lithic and ceramic artifacts. Further, as chemical characterization becomes more commonplace, we are gaining a clearer understanding of which techniques are appropriate for which materials and a clearer series of protocols for sample preparation and analysis. Regardless of the specific technique or material, the application of geochemistry to archaeological research problems has ultimately led to greater insights concerning the production and circulation of goods in Polynesia.

[157] SYMPOSIUM · IDENTITY AND IDEOLOGY AT THE FRONTIER: PERSPECTIVES FROM TARAPACA, NORTHERN CHILE

During the 1st millennium AD, the Tarapaca Valley was an important center for contemporary nomadic groups. This valley was the focal point of the Pica-Tarapaca cultural complex with the main site of Caserones serving as a major political and ideological center. In 2005, the Tarapaca Valley Archaeological Project began a multi disciplinary research project in the area. This session examines the results of this work and focuses on archaeological evidence related to the rise and fall of the Pica-Tarapaca cultural complex, the role of Caserones, its impact on the region and the complete rejection of Tiwanaku's influence in the valley.

[158] SYMPOSIUM · HYDRAULIC CONSTRUCTIONS IN ARCHAEOLOGICAL CONTEXTS

Recent discoveries in the Americas have illustrated the diverse methods used by preindustrial cultures to harvest, manage, and distribute water. While environmental constraints determine the options available within specific regions, political organization, subsistence patterns, and innovation determine which options were exercised. The array of engineering feats has included methods for tapping aquifers, directing runoff, collecting infiltration, wetland exploitation, and associated methods of storage and utilization of water resources. Here we present a collection of papers that represent the vanguard of our expanding knowledge of how cultures adapted to and manipulated their environments with hydraulic constructions.

[159] SYMPOSIUM · SCARCITY'S APPRENTICE - RAW MATERIAL AVAILABILITY AND THE TRANSMISSION OF SKILL IN PREHISTORIC LITHIC TECHNOLOGY

Skill transmission in lithic technology has so far been explored predominantly in flint-rich regions. In flint scarce regions, very little research has been carried out. Thus, the following

questions are worth exploring: ? How did skill transmission take place in flint scarce regions? ? Did the process of skill acquisition differ? ? Are differences in technological traditions and the occurrence of local innovations a direct result of a modification of skill transmission due to differential raw material availability? A comparison of the diversity of skill acquisition will provide new insights into the social and technological organisation of prehistoric/archaic societies.

[160] SYMPOSIUM · REGIONAL PERSPECTIVES ON EASTERN EUROPEAN TRANSITIONS

Eastern Europe in the Neolithic, Copper Age, and Bronze Age is ripe with instances of change and cultural transitions, making it an ideal location to study economic changes, shifts in settlement patterns, and population movements. Important considerations include the development of widespread agriculture, new methods of animal exploitation, and trends of nucleation and dispersal. The purpose of this symposium is to examine social, economic, and technological change during this dynamic period of prehistory from the perspective of current researchers working in Eastern Europe.

[161] GENERAL SESSION · NEOLITHIC SOCIAL DIFFERENTIATION IN THE NEAR EAST**[162] GENERAL SESSION · STUDIES OF DEMOGRAPHY, BIOARCHAEOLOGY, AND WARFARE IN THE SOUTHWEST U.S.****[163] GENERAL SESSION · WOODLAND AND LATE PREHISTORIC SETTLEMENT PATTERNS IN THE NORTHEASTERN U.S.****[164] GENERAL SESSION · EDUCATION AND PUBLIC OUTREACH****[165] GENERAL SESSION · ANCIENT CITIES IN TURKEY****[166B] WORKING GROUP · WOMEN REACHING OUT: STRATEGIES AND CONTEXTS FOR MENTORING IN ARCHAEOLOGY
(SPONSORED BY COSWA)**

The 2003 SAA Member Needs Assessment Survey included a series of questions sponsored by COSWA, and responses suggested significant disparities in how women and men perceived gender inequities in archaeology. The marked differences in how women and men understand the archaeological workplace suggests that women entering into archaeology need the council of other women, whose experiences of being archaeologists will mirror more closely their own future careers. This workshop is designed to bring women together at various stages in their careers and in various types of employment to discuss mentoring in both experience and practice.

[167] POSTER SESSION · TOPICS IN ARCHAEOOMETRY**[168] POSTER SESSION · SCIENTIFIC ANALYSES IN OLD WORLD ARCHAEOLOGY**

This poster symposium highlights research conducted by current or recent graduate students working in Europe, Asia and the Near East. An explicitly scientific approach to analysis forms the foundation of each of these projects.

[169] POSTER SESSION · ARCHAEOLOGICAL RESEARCH IN ASIA AND OCEANIA**[170] POSTER SESSION · ARCHAEOLOGICAL RESEARCH IN CHINA AND MONGOLIA****[171] POSTER SESSION · SETTLEMENT STUDIES IN MESOAMERICA****[172] POSTER SESSION · SETTLEMENT PATTERNS AND FEATURES IN THE PACIFIC NORTHWEST****[173] POSTER SESSION · PLAYING WITH FIRE AND FORAGING RETURNS: EXPERIMENTAL RESEARCH ON HABITAT MANIPULATION AND RESOURCE HANDLING**

Theoretical applications of foraging theory require quantitative data on resource encounter rate and rank. Session participants report on 1) the effects of fire on resource abundance in

the North American Great Basin and Western Desert of Australia, and 2) the problem of establishing handling costs and nutritional returns for traditionally important resources no longer taken by experienced collectors. Results of the first set of exercises underline the importance of habitat management among pre-European hunter-gatherers. Those of the second confirm the utility of theoretically-informed, actualistic experiments.

[174] POSTER SESSION · **TOPICS IN ARCHAEOLOGICAL METHOD AND THEORY**

[175] SYMPOSIUM · **AGRICULTURE TO ATHAPASKANS, SAMPLING TO SALMON: PAPERS IN HONOUR OF R. G. MATSON**

High quality archaeology = logical theoretical underpinnings + solid methodology + careful fieldwork / strong ethics x family support. This is the equation that describes R. G. Matson's career. This session offers a series of papers dedicated to subjects within the two principal geographic areas within which R. G. practises his craft: the American Southwest and the Canadian Northwest. These state-of-the-art contributions concern a variety of topics that have benefited from R. G. Matson's research and writing, clearly demonstrating the importance of his critical thinking to North American archaeology.

[176] GENERAL SESSION · **MORTUARY PATTERNS IN THE OLD WORLD**

[177] SYMPOSIUM · **BEYOND STATUS, MEANING, METAPHOR, AND IDENTITY IN NEW WORLD MORTUARY PRACTICES**

For decades archaeologists have recognized the enormous information potential of mortuary practices and bioarchaeological data to inform on past peoples and lifeways. Most studies have been carried out under a processual paradigm using mortuary practices to examine social status, wealth, and prestige. As one aspect of the ritual sphere, however, mortuary practices are a rich source of information of ideology and belief systems. When combined with bioarchaeological data, mortuary practices also produce a vibrant perspective on identity. This symposium explores meaning, metaphor, and identity in mortuary practices in a variety of contexts in the New World.

[178] SYMPOSIUM · **RETHINKING CLASS AND STATUS IN THE ANDES**

In this symposium, we present empirical data from the prehispanic Andes in order to discuss how archaeological accounts of pre-capitalist, non-market societies may challenge and contribute to anthropological conceptualizations of class and status. Papers will move beyond overly rigid Marxian notions of elite/commoner binary class relations by examining the dynamic processes and mechanisms through which different social distinctions were produced, reproduced, materialized, and naturalized in pre-capitalist settings. In this way, the symposium adds to particular accounts of class and status in the Andes, as well as general anthropological theories of political subjectivity, identity, social difference and distinction.

[179] SYMPOSIUM · **THE ARCHAEOLOGY OF INTOXICATION**

The use of intoxicating substances is a human universal. While there is a substantial body of ethnological research on intoxication, there has been relatively little research on the topic by archaeologists. This symposium presents research into the archaeological correlates of the use of intoxicants from a variety of geographic regions and time periods. In addition to the identification of the specific intoxicants used, researchers have focused on the cultural contexts in which they are employed, with specific attention given to ritual practices.

[180] SYMPOSIUM · **TEOTIHUACAN POLITICS AND RELIGION AT THE MOON PYRAMID AND BEYOND: ANALYSES, INTERPRETATIONS, AND CONCLUDING REMARKS OF THE MOON PYRAMID PROJECT**

Seven years of intensive excavations at the Moon Pyramid concluded in 2004, culminating in the discovery of a sacrificial grave (Burial 6) that consisted of twelve people, abundant predatory animals, and exceptionally rich offerings. Other major discoveries include seven overlapping architectural stages of monumental construction, four other sacrificial burial complexes, abundant symbolically charged artifacts, and the documentation of repeated architectural remodeling and social activities around the monument. The session details the

exploration of Burial 6, material analyses, contextual interpretations regarding the symbolism of the monument, results of a three-dimensional architectural mapping project, and new perspectives on Teotihuacano politico-religious power.

[181] SYMPOSIUM · SETTING THE RECORD STRAIGHT ON THE EARLY MAYA OF CENTRAL BELIZE

Archaeological investigations at Cahal Pech recorded important evidence for early (Cunil phase (1000-800 BC) settlements in the Maya lowlands. Subsequent investigations at Blackman Eddy and Xunantunich produced comparatively similar remains, confirming the precocity of this early cultural tradition in the Belize Valley. In recent years contradictory interpretations of the Cunil data (especially regarding the definition and interpretation of ceramic types) have led to concerns for the accurate interpretation of early Belizean prehistory. In an effort to set the record straight, this symposium will combine old and recently recovered data to define the nature of Formative period culture in Central Belize.

[182] SYMPOSIUM · TOWARDS AN ARCHAEOLOGY OF THE AFRICAN DIASPORA –PAPERS IN HONOR OF MERRICK POSNANSKY

(SPONSORED BY SOCIETY FOR AFRICANIST ARCHAEOLOGY)

Nearly twenty five years ago Merrick Posnansky published "Toward an Archaeology of the Black Diaspora," a call to develop a sophisticated, multi-sited interdisciplinary archaeological approach to understanding the diversity of the African Diaspora. Posnansky argued that archaeological research would have to be undertaken at a wide range of sites in the Americas and in Africa. Since that time, many have followed his call, undertaking archaeological research on African Diaspora related sites in the United States, the Caribbean, and West Africa and are brought together in this session to bear witness to over 20 years of African Diaspora archaeology.

[183] SYMPOSIUM · WEB 2.0 AND BEYOND: NEW TOOLS FOR COLLABORATION AND COMMUNICATION

(SPONSORED BY THE ALEXANDRIA ARCHIVE INSTITUTE)

New technologies are transforming the way archaeologists communicate and explore the past. Many archaeologists have embraced Web 2.0 collaborative tools and services such as blogs, wikis and Flickr. Some are experimenting with web services to integrate different bodies of content, interfaces and tools. These new tools present opportunities for research and public participation in archaeology. This session aims to: - Highlight current archaeological efforts implementing Web 2.0 technologies - Explore why certain approaches seem to work best for communicating archaeology - Discuss the challenges of networking archaeological information (semantic, intellectual property, technical, social) and how to look beyond Web 2.0 in our discipline.

[184] SYMPOSIUM · PALEOINDIAN RESEARCH FRONTIERS IN NORTH AMERICA'S PLAINS AND WESTERN MOUNTAINS

Eight decades have passed since New Mexico Folsom site excavations established Paleoindian occupations of North American late Pleistocene and early Holocene landscapes. Recently, Paleoindian research has accelerated with significant new site discoveries, theoretical insights, and technological advances providing increasingly fine-grained evidence on Paleoindian landscape elements, climates, ecosystems, and technocultural adaptations. This symposium explores microstratigraphic, paleoclimatic, and sedimentary analysis used in reconstruction of past climate and ecological systems, chemical, physical, and typological tool analyses, and applications of Geographic Information System software in simulating Clovis projectile point distributions and Paleoindian settlement patterns.

[185] SYMPOSIUM · RECENT RESEARCH IN THE ARCHAEOLOGY OF NORTHWEST MEXICO

The last two decades have realized an increase in archaeological investigations of Northwest Mexico encompassing territory including Sonora, Chihuahua, Durango, Sinaloa, and Nayarit, regions that historically have received far less attention by scholars than Mesoamerica proper and the American Southwest. This symposium offers an opportunity for archaeologists from Mexico and the United States to present their latest research findings in a forum that emphasizes both a pan-regional and a local approach to the cultural

history of this vast region. Papers will highlight a holistic approach including studies focused upon archaeology, iconography and art history, ethnography and ethnohistory, bioarchaeology, and architecture.

[186] SYMPOSIUM · ARCHAEOLOGY OF MESOLITHIC EUROPE: RECENT ADVANCES

The European Mesolithic period, extending from approximately 10,000 years ago until the arrival of farmers and the Neolithic, witnesses substantial variability in hunter-gatherer adaptations across the continent. Focus is on coastal, lacustrine, and riverine adaptations; inland occupation is generally rare and ephemeral. Many new discoveries point to a region of both dynamic archaeology and extraordinary diversity. Evidence for sedentism, dietary differences, burial and ritual, and the transition to agriculture will be considered in this review. Information from Ireland, the UK, Norway, Denmark, Germany, Portugal, and Serbia will be presented.

[187] GENERAL SESSION · REGIONAL SETTLEMENT AND ECONOMIC INTERACTION IN THE MAYA AREA

[188] SYMPOSIUM · JAPAN AND NW COAST (U.S./CAN) WET SITE CONNECTIONS: COMPARING BASKETRY, MACRO-FLORA/FAUNA, WOODWORKING, NON-PERISHABLES

Perishable artifacts from North Pacific Rim waterlogged/wet sites provide a new dimension to ancient material culture and plant food resource studies. Complex wood and fiber artifacts are common in wet sites along the North Pacific. Basketry styles are sensitive to ethnicity. Plant food resources such as acorns, hazelnuts and chestnuts are shown to be important to the Jomon and Central Northwest Coast peoples. Use of wood products are also crucial for over 9,000 years around the Rim. Wet sites reveal cultural patterns never before visible with typical Pacific shell midden sites. Comparing trends between ancient Japan and the Northwest Coast of North America are interesting when you have the preservation of the ancient wood and fiber artifacts from the two sides of the North Pacific Coast.

[189] SYMPOSIUM · CHAÎNE OPÉRATOIRE AND TRACÉOLOGIE: EXAMPLES OF INTEGRATED RESEARCH APPROACHES FROM NORTH AMERICA

The theory and methodology of chaîne opératoire (roughly equivalent to reduction sequences) and tracéologie (high-power use-wear analysis) as developed in France are increasingly being applied to North American archaeological contexts. This symposium brings together several ongoing research projects that apply the concepts of chaîne opératoire and tracéologie to prehistoric sites from the Canadian Arctic to the US Southwest. Research results from the application of these methodologies to various technologies are presented. Problems and prospects in the integrated application of the theory and methods of these two approaches to problem-oriented anthropological archaeology are discussed.

[190] SYMPOSIUM · NOMADS ANEW: NEW STUDIES AND PARADIGM SHIFTS IN WORLD PASTORALIST ARCHAEOLOGY

Recent archaeology in the former USSR, Mongolia, Africa, South America, and elsewhere is currently shaking our understanding of the prehistory of nomadic societies, as new discoveries concerning prehistoric pastoralist communities offer a wider and more diverse perspective of their strategies and impact on regional political economic histories. The aim of the session is to bring new studies to the fore, and contextualize them within a regionally comparative, theoretical framework. The themes of the session include: 1) domestication and the emergence of pastoralist communities; 2) the socio-economic organization of pastoralist communities; and 3) local-regional interaction and the formation of pastoralist landscapes.

**[191] FORUM · ARCHAEOLOGY AND ETHICS, FEATURING THE SAA ETHICS BOWL
(SPONSORED BY REGISTER OF PROFESSIONAL ARCHAEOLOGISTS)**

It can be argued that the measure of a profession is gauged by its ethical standards. This year the RPA sponsored forum will provide the SAA membership an opportunity to continue the discussion of topics debated during the Ethics Bowl. Topics likely to be discussed

include professional behavior in and outside of the U.S., indigenous archaeology, repatriation, and consultation.

[192] GENERAL SESSION · THE USE OF PLANT AND ANIMAL RESOURCES IN THE NORTHEAST U.S.

[193] SYMPOSIUM · EMERGING APPLICATIONS OF EVOLUTIONARY PARADIGMS TO THE ARCHAEOLOGICAL RECORD: OLD DOG, NEW TRICKS

Despite an association that spans decades, evolutionary paradigms continue to inform archaeological research and generate meaningful new questions. Recent research in archaeology has expanded the range of inquiry to include questions about how social and political agendas influence the archaeological record. Even traditional archaeological applications focusing on economic pursuits have been modified to address a wider range of questions about human behavior and the evolution of culture. Papers in the session reflect recent trajectories in evolutionary research and emphasize a variety of methods of querying the archaeological record.

[194] SYMPOSIUM · MARITIME ADAPTATIONS AND ENVIRONMENTAL INSTABILITY IN THE GULF OF ALASKA

The northern Gulf of Alaska is the Holocene homeland of complex maritime hunting and fishing cultures (Tlingit, Alutiiq, Dena'ina, Unangan) but the region does not reflect the environmental stability and security often evoked in social development models. Perturbations include climate-forced shifts in the marine ecosystem, fluctuating abundance of key subsistence species, earthquakes that destroy settlements and alter shorelines, volcanic eruptions, and glacial advances. Human responses have included migration, sudden turns in subsistence focus and strategy, and extensive systems of political alliance and exchange. The archaeological data emphasize flexibility and resilience as components of social complexity.

**[195] SYMPOSIUM · ALL THE KING'S HORSES: LOOTED OR UNPROVENIENCED ARTIFACTS AND THE VALID CONSTRUCTION OF THE PAST
(SPONSORED BY SAA ETHICS COMMITTEE)**

The looting of archaeological sites does more than destroy a precious non-renewable resource; it potentially undermines the basis for scholarship and our understanding of the past. How does uncertainty surrounding the history and context of multiple items in a particular data set affect our ability to interpret and understand the past? How can we balance the understandable desire to capture information from looted objects against the pitfalls of basing interpretations or theories on potentially fake or misattributed materials, or build secure archaeological interpretations on the basis of items that do not themselves have secure provenance or provenience?

[196] SYMPOSIUM · THE TAINOS: MYTH, INVENTION OR REALITY?

The term Taino is widely used to refer to the people that at Contact inhabited the islands from the northern Lesser Antilles to eastern Cuba and the Bahamas. However, the lack of a generally accepted definition has produced confusion among scholars working in the region. On one hand, the term seems to be useful to study similarities between groups from different islands, while, on the other, it obscures variability important for the study of more localized economical, social and political processes. The purpose of this symposium is to present different views and meanings of the concept and to discuss possible suggestions and perspectives for its use in the future.

[197] SYMPOSIUM · PA LI EB'IL TZUL: RECENT ARCHAEOLOGICAL AND EPIGRAPHIC INVESTIGATIONS AT UXBENKA AND PUSILHA

For several decades archaeologists have proposed that complex Classic Period polities in the southern Belize region formed a homogeneous "cultural region" or "Maya realm." This thinking was based on the rapid growth and decline of communities across a geographically circumscribed area, combined with readings of hieroglyphic texts and the application of favored models of political organization. Recent studies at Pusilha and Uxbenka suggest quite different developmental trajectories for these two sites. This

symposium will propose that the major sites of southern Belize had very different political histories, external relationships, and even different food ways.

[198] SYMPOSIUM · WHAT'S RIPPLING IN THE SEA? SHELL ANALYSES IN AND OUTSIDE NORTHWEST MEXICO

Shell has been used as an item for trade, an offering to better fortunes, an adornment and a marker for status, a tool, and an instrument for music or religious ceremony. In Northwest Mexico, shell stands out for its excellent preservation in the archaeological record and for the information about the communities who worked it, traded it, and used it. A discussion of this topic in and outside of Northwest Mexico seems timely and important. While contributions from other areas will be presented to compare shell use patterns, the focus lies on understanding shell use in Northwest Mexico.

[199] FORUM · FIELD SCHOOLS: FUNDING AND FUTURES

This forum explores issues and challenges related to running and funding archaeological field schools. Discussion topics include the sometimes cantankerous relationships between archaeologists and university administrators; strategies for convincing non-archaeologists (including administrators) of the value of field school; field school funding levels and models; and the role private donors can play in funding field schools, the unique obligations private funding can incur, and cultivation of donor-archaeologist relationships. Discussants will include archaeologists who run field schools of various sizes with highly variable funding structures and a university administrator and private donor who will offer thoughts from those perspectives.

[200] SYMPOSIUM · UNDERSTANDING LOCAL ECONOMIES AND SOCIO-POLITICAL CHANGE IN ECUADOR: A HOUSEHOLD AND COMMUNITY PERSPECTIVE

Socio-political change in the Northern Andes has been explained repeatedly in terms of models that emphasize the development of specialized economies and trade. In this symposium we evaluate these models through the examination of cases from Ecuador for which reconstruction of local economies is available at the household and community level. This perspective allows a view into economic dynamics that makes it possible to evaluate if and how specialization, trade or economic differentiation are to be considered key aspects in diverse processes of socio-political change.

[201] SYMPOSIUM · (RE)DEFINING COLONIAL ENCOUNTERS: ARCHAEOLOGIES OF AFRICAN MATERIALITY

Colonialism has been the topic of considerable theoretical interest in recent archaeology. Despite important conceptual advances, a challenge persists in accounting for and elucidating the plurality of experiences that occurred at different places and paces, involving different colonial regimes and subject populations -- and whether available approaches can help us conceptualize this heterogeneity. To engage these discussions, this session gathers African case-studies that explore the rhythms, subjectivities, and materialities that infused early colonial encounters on the continent. The papers propose perspectives and narratives aimed to foster conversation and debate with broader archaeological reflections on the dynamics of colonial situations.

[202] GENERAL SESSION · STUDIES OF RESOURCE USE, SUBSISTENCE AND TECHNOLOGY IN CALIFORNIA ARCHAEOLOGY

[203] GENERAL SESSION · INVESTIGATIONS IN THE PRECLASSIC LOWLAND MESOAMERICAN LOWLANDS

[204] SYMPOSIUM · FOOD PRODUCTION AND EMERGING COMPLEXITY: A GLOBAL PERSPECTIVE

How did early and historic food producers adapt to society's demands when faced with growth in scale and/or complexity, such as during urbanization and state formation? And to what extent did food production permit or constrain growth and change among early complex societies? These questions will be addressed using botanical, faunal, ceramic, documentary, and other sources of data from early complex societies from around the globe, particularly from Africa and North America. Cross-cultural similarities will be

identified, while appreciating historical and/or material constraints on early food production patterns.

[205] GENERAL SESSION · RESEARCH IN THE MIDDLE PALEOLITHIC

[206] GENERAL SESSION · RESEARCH IN IRON AGE EUROPE AND THE NEAR EAST

[207] GENERAL SESSION · WOODLAND AND MISSISSIPPIAN SUBSISTENCE AND SETTLEMENT PATTERNS IN THE MIDWEST AND GREAT LAKES

[208] GENERAL SESSION · METHODOLOGICAL ADVANCES IN GEOARCHAEOLOGY

[209] GENERAL SESSION · CONTACT PERIOD ARCHAEOLOGY IN NORTHERN AND WESTERN NORTH AMERICA

[210] SYMPOSIUM · IT CAME FROM OUTER SPACE? OR MAYBE NOT: IS THERE ARCHAEOLOGICAL EVIDENCE FOR AN EXTRATERRESTRIAL IMPACT IN NORTH AMERICA AT 13,000 CAL BP?

A team of geologists and physicists recently announced supposed evidence of a bolide impact over North America at about 13,000 cal BP. They hypothesize that this impact triggered the Younger Dryas cold episode, caused the abrupt extinction of megafauna, and led to the collapse of the Clovis culture. In this session, the case for impact as a prime mover is evaluated by examining recent paleoclimate data, stratigraphic sequences, alternative models of extinction, and the continental record of Paleoindian occupations.

[211] GENERAL SESSION · MORTUARY PATTERNS AND FUNERARY OBJECTS IN THE SOUTHWEST

[212] POSTER SESSION · HISTORIC PRESERVATION AND THE CRM PROFESSOR

[213] POSTER SESSION · METHODS AND MODELS IN MESOAMERICAN RESEARCH

[214] POSTER SESSION · GREAT BASIN ARCHAEOLOGY

[215] POSTER SESSION · MESOLITHIC, NEOLITHIC, AND CHALCOLITHIC PERIOD ARCHAEOLOGY

[216] POSTER SESSION · EUROPEAN ARCHAEOLOGY

[217] POSTER SESSION · BIOARCHAEOLOGICAL STUDIES OF THE KELLIS 2 CEMETERY, DAKHLEH OASIS, EGYPT

[218] POSTER SESSION · METHODS IN BIOARCHAEOLOGY

[219] POSTER SESSION · RESOURCE UTILIZATION IN THE PACIFIC NORTHWEST

[220] POSTER SESSION · ARCTIC/SUBARCTIC ARCHAEOLOGY

[221] POSTER SESSION · TOPICS IN PLAINS AND ROCKY MOUNTAIN ARCHAEOLOGY

[222] POSTER SESSION · THE ANIMAS-LA PLATA ARCHAEOLOGICAL PROJECT: UNDERSTANDING PRECONTACT AND PROTOHISTORIC LAND USE NEAR DURANGO, COLORADO (SPONSORED BY SWCA ENVIRONMENTAL CONSULTANTS)

From 2002-5, SWCA Environmental Consultants excavated 74 archaeological sites southwest of Durango, Colorado, the majority of which date to the Pueblo I period (A.D. 750-900). Subsequent years have focused on analysis, reporting, curation, and repatriation for this large project, which required the development of a sophisticated database and laboratory management practices. Analyses of community organization, transportation routes, architecture, mortuary practices, stature, ceramics, ground stone, ornaments, and faunal remains are on-going. This poster session highlights the results of several research directions that together contribute to our knowledge of the history and prehistory of

southwestern Colorado and the greater Four Corners region.

[223] SYMPOSIUM · MOLECULAR ARCHAEOLOGY PART I: ANCIENT DNA FOR THE ARCHAEOLOGIST

This session is Part I or II showcasing the emerging field of Molecular Archaeology, presenting research applying ancient DNA techniques to address archaeological questions and issues. This recent research uses genetic data specifically to answer archaeological questions about human behaviour, and human-animal and human-plant interaction in the past. The papers in this session will highlight the unique potential of ancient DNA analysis to enhance many areas of archaeological research, including human migrations, health and diseases, subsistence practice, domestication, trade and interactions.

[224] SYMPOSIUM · CLIMATE, PEOPLE AND BEHAVIOR, A SYMPOSIUM IN HONOR OF REID BRYSON

Dr. Reid Bryson has used the knowledge amassed during a career as a climatologist to benefit archaeologists. Bryson and Bryson developed Archaeoclimatology, bringing a new dimension to the study of paleoenvironments. This system provides a visualization of high-resolution climatic variables for the past. Modeling past climates is just the first step in studying paleoenvironments since ground-truthing against proxy data is required. Understanding past climates is essential to understanding human use of natural resources. Modeling past climates, when combined with proxy data, provides a baseline system for discussing cultural adaptations of people at any scale whether continental, regional, or local.

[225] SYMPOSIUM · DARK ORIGINS AND BRIGHT FUTURES: SPELEOCENTRIC APPROACHES TO THE ARCHAEOLOGY OF CAVES IN NORTH AMERICA, PART 1: WESTERN NORTH AMERICA

Even before archaeology existed as a discrete discipline, archaeologists sought out caves and rockshelters for the excellent preservation of their protected deposits. This made caves ideal for addressing many research questions, yet little research examined the actual purposes for which prehistoric people entered caves. These two sessions will present speleocentric research from across North America that recognizes prehistoric cave activity as qualitatively different from surface activity and primarily religious in nature.

[226] SYMPOSIUM · REGIONAL AND INTERREGIONAL INTERACTIONS IN EARLY EAST ASIA

This symposium highlights recent research on regional interaction during the late prehistoric and early historic periods in China, Japan, and Korea. The papers discuss the nature of interactions that took place within and between regions, analyzing the social, economic, and political processes underlying them. They evaluate archaeological evidence for exchange of goods, emulation of foreign styles, warfare, and symbols of elite ideology. Rather than assuming primacy of core-periphery models with a single core and passive peripheries, this symposium considers the reciprocal and complex nature of interactions in the past, emphasizing human agency, local strategies, and *in situ* developments.

[227] SYMPOSIUM · THE FORMATIVE PERIOD IN MESOAMERICA: VIEWS OF OLMAN

This symposium presents a series of recent hypotheses regarding the Mesoamerican Formative Period Olmec phenomenon as it was materialized both inside and outside Olman on the Southern Gulf Coast. Of concern is the presence or lack of evidence for two-way interaction between various regions in Mesoamerica. External regions include the Soconusco Coast, Oaxaca, West Mexico, Honduras, and the Guatemala Highlands. These issues are addressed by observing individual sites, regional analyses, and overviews of exchange, acquisition, and technologies involving ceramics, obsidian, and agriculture. All aspects of the archaeological record are considered including the material culture, ideology, cosmology, and technologies.

[228] SYMPOSIUM · TENSION AND TRANSITION: RELIGIOUS IDEOLOGIES IN THE PUEBLO SOUTHWEST, A.D. 1250 TO 1450

By the late-1200s, the ancestral Pueblo world was transformed by regional depopulation, migration, and aggregation into large plaza-oriented villages. Archaeologists commonly associate these events with climatic change, but many now acknowledge the role of new

religious movements in the reorganization of these communities. Religious movements such as the pre-Hispanic Katsina and related Southwestern religions were used to negotiate social identities within aggregated villages, to mitigate conflict, and were perhaps manipulated as an emergent source of power. This symposium examines the materialization and social context of these religious beliefs during the prelude to the modern Pueblo world in the American Southwest.

[229] SYMPOSIUM · SELECTIVE FOCI OR FUZZY DATA RESOLUTION: POLITICAL ANTHROPOLOGY AND THE ARCHAEOLOGY OF POLITICAL PRODUCTION IN THE PAST

Archaeological treatments of politics in past human societies have for decades primarily focused on large-scale institutional structures and contexts, often neglecting the political practices of everyday life. In this session we seek to expand our understanding of politics by including the diversity of practices and strategic actions that orient social relations at a variety of scales and in multiple contexts. Using archaeological datasets, we explore various relationships between past peoples, places, objects and environments with a view toward recognizing a diversity of past political actions and strategies, including their motivations and social consequences.

[230] SYMPOSIUM · RED FISH (SALMON), WHITE FISH (COD), BIG FISH (HALIBUT), SMALL FISH (HERRING): THE ARCHAEOLOGY OF NORTH PACIFIC FISHERIES

Variable form, focus, and intensity are increasingly evident in Pacific Northwest Coast fisheries. Although the importance of salmon is well-known, the timing and extent of its use varies widely, while the value of Pacific cod, herring, and other fish is generally under-appreciated. Spatial and temporal variability is attributable to environmental variation and change, settlement patterns, technology, transportation and trade, or alternatively to resource depression or control and management. Papers examine patterns and trends in fisheries, offer strategies for evaluating different explanations of archaeologically observed variability, and assess the importance of different species to the Indigenous peoples of the North Pacific.

[231] SYMPOSIUM · QUEBRADA JAGUAY: MARITIME ADAPTATIONS AND THE PALEOINDIAN TO ARCHAIC OCCUPATION OF SOUTHERN PERU

Ten years after initial publication, Quebrada Jaguay (ca 13,000-8200 cal yr BP) remains one of the oldest New World fishing sites as well as the strongest South American case for Paleoindian-age coast-highland interaction. Through two field seasons at the site, multiple seasons in adjacent areas, and a decade of analysis, we have deepened our understanding of the early South Americans of southern Peru, with implications for the peopling of South America. This session presents the stratigraphy, chronology, architecture, lithics, paleobotany, zooarchaeology, geochemistry, paleogeography, settlement pattern, and long-distance connections of Quebrada Jaguay and its region.

[232] SYMPOSIUM · ANDEAN HOUSEHOLDS: NEW PERSPECTIVES FROM THE HIGHLANDS AND THE NORTH COAST

This symposium addresses households and domestic contexts from all time periods in the Andes. Contributors will link household assemblages and domestic practice to wider social, economic, or political dynamics. In addition, presenters will use household contexts to address continuities and discontinuities observed in the Andes through various time periods. Households have been an important facet of archaeological research for the last twenty years and have become a major focus of methodological and theoretical discourse. This symposium will serve to synthesize current themes, foci, and concerns in the field of domestic studies.

[233] SYMPOSIUM · COMMUNITY INTEGRATION IN EASTERN MESOAMERICA

The means by which prehistoric societies integrated themselves has become an area of intensive research. Communities in particular are no longer seen as natural social units but as socially constituted units. This session examines ancient community integration in different historical and cultural contexts and from a variety of methodological and theoretical perspectives.

[234] SYMPOSIUM · TEN YEARS OF ARCHAEOLOGICAL RESEARCH AT THE ANCIENT MAYA CENTRE OF MINANHA

In this session we plan to present data from archaeological and paleo-environmental research conducted at the site of Minanha, located in North Vaca plateau of western Belize. Presenters in this session will highlight the work that has been conducted at this site both with regards to how this research elucidates the history and socio-political organization of the site itself and how this research contributes to our understanding of the region and the Maya area as a whole.

[235] SYMPOSIUM · THE OTHER COAST: COASTAL ECONOMIES AND SOCIAL ORGANIZATION IN THE WESTERN NORTH ATLANTIC

The coast of Atlantic Canada is a productive ecosystem that has hosted an ebb and flow of various cultures that successfully adapted to a dynamic environment and resource structure. These cultures represent different levels of social complexity, and various economic patterns. The papers discussed in this session will examine adaptations of many of these groups and discuss current research focused on a better understanding of their lifeways. They will include discussion of prehistoric and historic economic strategies and social organization in a region that today is still heavily reliant on resources in the North Atlantic and its margins.

[236] FORUM · MODELING PALEOINDIAN SITES AND ASSEMBLAGES: PIDBA (PALEOINDIAN DATABASE OF THE AMERICAS) AND OTHER APPROACHES

This forum explores how researchers exploring Paleoindian archaeology in the Americas can present and share data electronically, and examines the kinds of analyses that can be conducted using large datasets. The Paleoindian Database of the Americas (PIDBA) is one online example that involves researchers from across the hemisphere compiling locational and attribute data on Paleoindian sites and artifacts. These data have been used to explore Paleoindian settlement patterns, group ranges, population change, and the ecological associations of early sites, as well as morphological and typological variability within early assemblages.

[237] GENERAL SESSION · REGIONAL INTERACTION IN THE INKA WORLD**[238] SYMPOSIUM · BEYOND ZINJ: VARIABILITY IN BUTCHERY PATTERNS AT EARLY STONE AGE SITES**

Understanding Plio-Pleistocene hominin dietary behavior and ecology is crucial to the development of evolutionary models concerning hominin anatomy and behavior. While zooarchaeological research is becoming increasingly methodologically sophisticated, incorporating novel approaches in taphonomy, experimental design, and ethnoarchaeology, some paradigmatic problems remain. Often, discussions of Early Stone Age hominin faunal exploitation are dominated by one large, well-preserved archaeofauna from Olduvai Gorge: FLK (22) Zinjanthropus. This session will broaden the scope of ESA zooarchaeology via examination of a wider range of archaeofaunas with butchery marks, and move the focus of early hominin zooarchaeology "beyond Zinj", towards new regional, methodological, and theoretical foci.

[239] GENERAL SESSION · HISTORICAL ARCHAEOLOGY IN THE NORTHWEST U.S.**[240] SYMPOSIUM · MOBILITY AND EXCHANGE FROM A PAN-CARIBBEAN PERSPECTIVE**

This symposium assembles an array of synthesizing papers of both local and regional studies addressing the topics of mobility and exchange from a pan-Caribbean perspective. Contributions from the various areas skirting the Caribbean Sea will provide a panorama of the dynamics of human mobility and the distribution of goods and ideas across the circum-Caribbean region through time. Interrelationships between these areas and underlying mechanisms which may have tied together communities within this macro-region will be explored.

**[241] SYMPOSIUM · CURRENT STUDIES ON OBSIDIAN SOURCING, TRADE, USE, AND DATING
(SPONSORED BY INTERNATIONAL ASSOCIATION OF OBSIDIAN STUDIES)**

For more than 40 years, obsidian studies in archaeology have contributed significantly to our understanding of long-distance trade and exchange in many parts of the world, and to dating archaeological sites especially when radiocarbon or other methods could not be used. More recent advances in analytical instrumentation have resulted in an increased number of studies on geological sources and the testing of statistically significant numbers of archaeological artifacts, frequently using non-destructive methods at low cost-per-sample rates. The papers in this session represent new obsidian research projects from all around the world, including Europe, Africa, Asia, North, and South America.

[242] SYMPOSIUM · ESPACIO Y PAISAJE EN ARQUEOLOGÍA

La categoría de espacio ha sido abordada tradicionalmente en arqueología como una cuestión pasiva, estática, mensurable, describible; sin embargo, el impacto de las reflexiones actuales en la arqueología ha generado el debate sobre su complejidad. Los aportes recientes abordan la cuestión desde la fenomenología, la hermenéutica, el privilegio metodológico del sujeto, la experiencia, la agencia, la interacción entre actores sociales, los campos discursivos, los sistemas simbólicos, la vida cotidiana, entre otros elementos de análisis. En este symposium se abordaran estudios de caso americanos, así como diversos planteamientos teóricos y metodológicos sobre el espacio y el paisaje en arqueología.

[243] SYMPOSIUM · CURRENT AND FUTURE DIRECTIONS IN SHELL MIDDEN RESEARCH

The analysis of shell middens, and/or shell bearing sites has evolved dramatically over the past several years. While species identification and quantification remain staples in the discipline, the implementation of new analytical techniques has allowed for more complex questions to be explored. This session highlights the potential for new avenues of shell midden research through the application of sclerochronology, geochemistry, biomass reconstruction and modeling. It also features traditional macro and microscopic approaches. The integration of analytical techniques makes it possible to address issues concerning paleoclimate, human adaptation to coastal environments and their impact on marine ecosystems.

[244] SYMPOSIUM · PENINSULAR TALES: THE ARCHAEOLOGY OF THE TARACO PENINSULA POLITY

The past five years have seen an explosion of research in the Late Formative Period (200 B.C.E.-C.E. 500) of the southern basin of Lake Titicaca. Previously largely unknown, it has become clear that this period gave rise to the first generation of regional polities in South-Central Andean prehistory. The social changes, political economies, regional networks, and practices of social distinction that developed in these early polities set the stage for Tiwanaku state formation at the end of the period. We present the results of three seasons of excavations and analysis within the territory of one of these political formations.

[245] SYMPOSIUM · EXPLAINING LITHIC ASSEMBLAGE VARIABILITY ACROSS BERINGIA, PART 1: NORTHEAST ASIA TO ALASKA

Without question, the late-Pleistocene/early-Holocene archaeological records of northeast Asia, Alaska, and northwest Canada are characterized by significant degrees of variability in stone-tool technology and typology, yet we still do not know what this variability means. New studies of lithic procurement and selection, technology, and tool function have begun to untangle some important problems, including the apparent dichotomy between microblade and non-microblade industries, relationship of fluted and lanceolate point technologies, and adaptive contexts of different early industries. Our symposium presents new studies of technological organization and assemblage systematics, with the ultimate goal of explaining variability in light of hunter-gatherer colonization and adaptation to Beringia's unique environments.

[246] SYMPOSIUM · CATTLE, COD, COMMODITIES AND SURVIVAL IN THE SCANDINAVIAN NORTH ATLANTIC

This session presents new data from a number of multi-disciplinary integrative projects

from Greenland and Newfoundland to Iceland and the Faroe Islands. The projects deal with subjects such as the social and economic foundations of the Norse Greenland colony and the origins of the early modern fish trade. Viking Age subsistence as well as the advent of global economies in the North Atlantic will be addressed as well. Unifying all these projects is a concentration on Historical Ecology and Panarchy theory.

[247] FORUM · CONVERGING COMMUNITIES IN DIGITAL HERITAGE

At the heart of networks, institutions, programs and projects are people engaged with actions and agendas that traverse the boundaries of any one organization. Within these 'virtual communities' of human effort and achievement, we converge to take on the recurring and emerging challenges or opportunities of cultural heritage in the digital age, often without the full appreciation of other activities that may be happening in parallel. This forum aims to broaden our virtual community awareness through highlighting success stories and lessons learned in digital heritage as shared by the individuals involved in their founding, development and evolution.

[248] SYMPOSIUM · TECHNOLOGICAL PERSISTENCE AND CHANGE IN ANCIENT MESOAMERICA AND BEYOND

The present symposium is aimed at comparatively studying technological change and persistence, using the development and evolution of distinct Mesoamerican technological complexes such as lithics, pyrotechnology, and construction techniques, all in the framework of their associated economic and social systems. The main goal is to investigate the different modes in which technology, as a cultural variable, intermingled with the ever evolving human societies in Mesoamerica. Further comparisons are made with analogous technological studies from other areas, including North America and South America.

[249] SYMPOSIUM · ARCHAEOLOGICAL PERSPECTIVES ON ENVIRONMENTAL CHANGE AND CULTURAL RESPONSE

(*SPONSORED BY GEOARCHAEOLOGY INTEREST GROUP*)

Archaeologists have long explored the complex ways that human societies have interacted with changes in climate and landscape. Consequently, we are uniquely positioned to provide insights into some of the implications of environmental change such as might be precipitated by global warming. This symposium brings together scholars who approach human-environmental/landscape interactions from various points of view to present examples of the relationship between culture, landscape, society, and the environment. Papers vary in terms of theoretical perspective, geographic area, temporal scale, and substantive focus, but each is based on archaeological data that illuminates the dynamics of human responses to environmental change.

[250] GENERAL SESSION · ARCTIC/SUBARCTIC TECHNOLOGIES**[251] GENERAL SESSION · ARCHAEOLOGICAL RESEARCH AT TENOCHTITLAN AND TEOTIHUACAN****[252] GENERAL SESSION · RESEARCH IN OCEANIA AND AUSTRALIA****[253] GENERAL SESSION · CLASSIC MAYA POLITIES IN CAMPECHE****[254] GENERAL SESSION · WOODLAND SETTLEMENT AND CRAFT PRODUCTION IN THE SOUTHEAST U.S.****[255] GENERAL SESSION · AESTHETICS, SYMBOLISM, AND COMMODITIES IN SOUTHWESTERN ARCHAEOLOGY****[256] SYMPOSIUM · MOLECULAR ARCHAEOLOGY PART II: ANCIENT DNA FOR THE ARCHAEOLOGIST**

This session is Part II of the Molecular Archaeology: Ancient DNA for the Archaeologist session, concluding with discussion on actual and potential collaborations between archaeologists and molecular specialists.

[257] SYMPOSIUM · ANCIENT MAYA ECONOMIES OF POWER: ELITE PRODUCTION AND DISTRIBUTION

Increasingly nuanced understandings of ancient Maya political hierarchy have revealed courtly and subroyal elites as important players in the hegemonic nature of power. Archaeological, hieroglyphic, and ethnohistoric sources indicate that such elites played key roles in the movement and production of valued cultural materials, ranging from supervision of complex systems of import, to specialized craft production resulting in materials that marked special identities and privileges, to production of texts that created historical precedent and articulated identity. Session participants address the spectrum of elite involvement in production to illuminate hegemonic systems of power and their relationship to ancient Maya economy.

[258] SYMPOSIUM · DARK ORIGINS AND BRIGHT FUTURES: SPELEOCENTRIC APPROACHES TO THE ARCHAEOLOGY OF CAVES IN NORTH AMERICA, PART 2: EASTERN NORTH AMERICA

Even before archaeology existed as a discrete discipline, archaeologists sought out caves and rockshelters for the excellent preservation of their protected deposits. This made caves ideal for addressing many research questions, yet little research examined the actual purposes for which prehistoric people entered caves. These two sessions will present speleocentric research from across North America that recognizes prehistoric cave activity as qualitatively different from surface activity and primarily religious in nature.

**[259] SYMPOSIUM · SOILS AND SEDIMENTS IN OLD WORLD AND NEW WORLD ARCHAEOLOGICAL SETTINGS: A SYMPOSIUM IN HONOR OF PAUL GOLDBERG
(SPONSORED BY SAA FRYXELL COMMITTEE)**

Paul Goldberg is the recipient of the 2008 Fryxell Award for interdisciplinary research. Although he is best known for his work with micromorphology in archaeology, Paul has an exemplary record of geoscience-based research and teaching in all aspects of archaeology. He is the quintessential interdisciplinary scientist and merits recognition from the SAA for his many contributions to American archaeology. This symposium honors his career by presenting a broad range of papers that consider soils and sediments in archaeological settings in both the New and Old World.

[260] SYMPOSIUM · WAYS OF BECOMING: DYNAMIC PROCESSES IN THE CREATION OF ATHAPASKAN IDENTITIES AND LANDSCAPES

At European contact Athapaskan speakers occupied a vast expanse of western North America, from the Arctic to the Sierra Madre. This dispersion provides an unparalleled opportunity to examine continuity and change on a continental scale through the integration of cultural, oral, and archaeological traditions. Symposium participants offer diverse perspectives on Athapaskan history, using anthropological theory, archaeological projects, and community interactions to explore topics including: the circumstances surrounding Athapaskan migration, the relationship between language and material culture in the creation and maintenance of Athapaskan identities, key social and technological thresholds in Athapaskan history, and interaction between Athapaskans and neighbouring societies.

[261] SYMPOSIUM · CONNECTED PASTS: CURRENT NETWORK APPROACHES IN ARCHAEOLOGY

Archaeology has an historical engagement with network concepts, which reflects the discipline's concern with various forms of social relatedness. Current network analysis methods investigate the dynamics, robustness, connectivity, and navigation of various social and biological networks. These analytical tools can be used to address topics germane to archaeology including: changes in prehistoric social and political organization, transmission of innovations, the evolution of trade networks, and responses to environmental change. This symposium explores current approaches to network analysis in archaeology and discusses how these approaches facilitate inferences about the scale, dynamics, and interaction of past social systems.

[262] GENERAL SESSION · THE ARCHAEOLOGY OF SPANISH CONTACT IN LATIN AMERICA

[263] SYMPOSIUM · 25 YEARS OF CONTISUYO: BUILDING A MULTI-GENERATIONAL ARCHAEOLOGICAL RESEARCH PROGRAM

2008 marks the 25th anniversary of field research and training by the Programa Contisuyo, a consortium of international investigators focused on southern Peru. Formed in collaboration between Chicago's Field Museum and the Museo Peruano de Ciencias de la Salud with support from Southern Peru Copper Corporation, it has grown into one of the longest surviving and successful research programs in South America. The papers in this session reflect on the history of building such an enterprise and the new research being generated 25 years later. How does the Contisuyo serve as a model for future investigations?

[264] GENERAL SESSION · MEDIEVAL ADAPTATIONS AND SOCIAL IDENTITY**[265] GENERAL SESSION · NEW WORLD PALEOINDIAN RESEARCH****[266] SYMPOSIUM · MIGRATION OR EMULATION: CHACOAN PRESENCE IN THE MIDDLE SAN JUAN REGION AD 1050-1200**

In the late eleventh and early twelfth centuries, the Aztec and Salmon communities in the Middle San Juan region emerged as population and sociopolitical centers during the closing decades of Chaco Canyon's ascendancy. Some archaeologists have attributed these developments to migration from Chaco Canyon, 75 km to the south. Others have suggested that the Chacoan "system" was the result of emulation of Chacoan characteristics by local groups in "Outlier" communities. This symposium reports on National Science Foundation-sponsored research that explores these alternatives--migration and emulation--in the emergence of Aztec, Salmon, and several smaller, contemporary communities from AD 1050-1200.

[267] SYMPOSIUM · ROCKING BELIZE: NEW APPROACHES TO LITHIC ANALYSIS AT MAYA SITES

With the discovery of the extensive workshops at the site of Colha in the 1970s, lithic analyses at sites in Belize focused on a model of lithic production known as the producer-consumer model. Recent research explores the complexity of the model and how even individual households acted as consumers and producers. Most communities contained both consumers and producers using a mix of locally available and imported raw materials. This session explores the variety of approaches used by the ancient Maya to produce and obtain chipped stone tools as well as those used by archaeologists in analyzing these systems.

[268] SYMPOSIUM · HYBRIDIZATION AND COLONIZATION: CROSS-CULTURAL PERSPECTIVES

Several recent studies have focused on the phenomenon of cultural contact in antiquity, often resulting from colonial encounters, trade and exchange, colonization or political domination. In such situations of interaction between culturally diverse human groups, we often observe a process that postcolonial scholars term 'hybridization'. Hybridization is an active form, in which the meeting and mixing of peoples of varied identities and cultural practices result in the creation of entirely new cultural norms, marked by new ways of doing things and new perceptions of meaning. This session will aim to present case studies in which the archaeological record illustrates the processes of hybridization and/or colonization.

[269] GENERAL SESSION · TECHNOLOGY AND MODERN BEHAVIOR IN THE UPPER PALEOLITHIC**[270] SYMPOSIUM · THE ROLE OF INFORMATION IN HUNTER-GATHERER BAND ADAPTATIONS**

Information is central and critical to the successful functioning and evolutionary adaptation of hunter-gatherer bands. Almost every aspect of band-level cultural systems is involved to some degree and in some way with the acquisition, storage, circulation, access, and use of information. This symposium draws on insights from multiple disciplines to explore questions about how and in what contexts information is acquired, stored, circulated, evaluated, and utilized in these societies. The ultimate aim of this session is to begin building a general model of the role of information within the cultural context of small-scale, hunter-gatherer bands.

[271] FORUM · INTELLECTUAL PROPERTY ISSUES IN ARCHAEOLOGY: APPROPRIATION VS. FAIR USE?**(SPONSORED BY THE COMMITTEE ON ETHICS (ALEX BARKER, CHAIR))**

Intellectual property (IP) issues, both real and imagined, are emerging as a critical topic in archaeological theory, practice, policy, and ethics. Who owns rights to knowledge about the past, including that derived from human genetic sources? How is the access to information movement affecting archaeology? How applicable are legal concepts of copyright, patents, and trademarks to what archaeologists do? What are the implications of IP in negotiating research relationships and in publications and data sharing? This forum explores these and related issues, especially how to facilitate and achieve fair and appropriate use and access.

[272] SYMPOSIUM · THE MINDS BEHIND THE METAL: ACCESSING PAST METALLURGICAL EXPERIENCE**(SPONSORED BY INSTITUTE OF ARCHAEO-METALLURGICAL STUDIES (IAMS) AND SOCIETIES FOR ARCHAEOLOGICAL SCIENCES (SAS))**

This symposium aims to promote the potential of archaeometallurgy in addressing problems of past social complexity and cultural development. Although metals have long been of archaeological interest, archaeometallurgy has been regarded as distinct from the general field of archaeology. More recently, archaeometallurgical approaches have sought to complement scientific understandings of past technologies with a more thorough appreciation of the interrelated human aspects. Through the application of advanced analytical techniques, many aspects of past societies are now being addressed, allowing greater understanding of how metals were produced, utilised and regarded within past communities.

[273] SYMPOSIUM · CURRENT RESEARCH IN THE NORTHERN GULF OF CALIFORNIA: PREHISTORIC COASTAL ADAPTATIONS IN THE PUERTO PENASCO AREA, SONORA, MEXICO

Archaeological investigations have been conducted in recent years by Mexican and American scientists in the northeastern Gulf of California, focusing on prehistoric use of the coastal zone, particularly in the vicinity of Puerto Peñasco. Extensive shell middens line are concentrated around tidal estuaries, used by various prehistoric cultures, including Archaic, Hohokam, Trincheras, and Lowland Patayan. Research interests include study of prehistoric coastal subsistence strategies and occupation patterns, and mid- to late Holocene paleoenvironments. Surface artifact assemblages, excavated artifacts and subsistence remains, and recently obtained C14 dates demonstrate use of marine and terrestrial resources from middle Archaic through late prehistoric times.

[274] SYMPOSIUM · ADVANCES IN ANDEAN ISOTOPIC RESEARCH: MOVEMENT AND SUBSISTENCE THROUGH SPACE AND TIME

Reconstructing patterns of population movement and subsistence in Andean South America permits significant insights into ancient political economy, resource distribution, and culture change. Though these processes traditionally have been difficult to measure archaeologically, analysis of stable isotopes in preserved remains show remarkable promise in elucidating both regional movement and subsistence patterns among individuals. This symposium highlights on-going isotopic research from diverse central Andean contexts and cultures, including Nasca, Moche, Wari, Tiwanaku and Inca. The breadth of regional coverage and convergence of methodologies and theoretical perspectives provides a comprehensive look at current and future isotopic research in the Andes.

[275] SYMPOSIUM · EXPLAINING LITHIC ASSEMBLAGE VARIABILITY ACROSS BERINGIA, PART 2: ALASKA TO NORTHWEST CANADA

Without question, the late-Pleistocene/early-Holocene archaeological records of northeast Asia, Alaska, and northwest Canada are characterized by significant degrees of variability in stone-tool technology and typology, yet we still do not know what this variability means. New studies of lithic procurement and selection, technology, and tool function have begun to untangle some important problems, including the apparent dichotomy between microblade and non-microblade industries, relationship of fluted and lanceolate point

technologies, and adaptive contexts of different early industries. Our symposium presents new studies of technological organization and assemblage systematics, with the ultimate goal of explaining variability in light of hunter-gatherer colonization and adaptation to Beringia's unique environments.

[276] SYMPOSIUM · INTEGRATING SOCIAL WORLDS AT CATALHOYUK

After 12 years of excavation, this session aims to present the diversity and interdisciplinarity of archaeological research at Catalhoyuk, Turkey and highlight the complexity of social worlds at Neolithic Catalhoyuk. The unique time-depth at Catalhoyuk has allowed a detailed examination of everyday life, while lateral excavation exposure has revealed neighborhoods and household exchange. Depositional processes detail a schema of buried objects, hidden meanings, multiple uses, curation, and acquisition, revealing an entanglement of individuals, houses, and things. Each paper will illustrate how a social archaeology is constructed from the bottom up, through the data and with the benefits of collaborative efforts.

[277] SYMPOSIUM · CHANGING POLITIES, ECONOMIES, AND IDENTITIES IN CLASSIC AND POSTCLASSIC CENTRAL MEXICO: PERSPECTIVES FROM CERRO PORTEZUELO

We discuss new data from field and laboratory investigations bearing on the closely intertwined topics of political systems, economies, and identities in highland central Mexico. For the period of Teotihuacan's dominance we consider the production and distribution of ceramics and stone tools, diverse identities as reflected in burial practices, and relations between the city and nearby hinterland settlements, especially Cerro Portezuelo. We also address the collapse of the Teotihuacan state and shifts in politics, economics, and identities, reformulations in the era of Tula's prominence, the rise of the Aztec empire, and catastrophic consequences of the Spanish conquest.

[278] SYMPOSIUM · WASDEN RESURRECTED: ANALYSIS, INTERPRETATION AND FUTURE DIRECTIONS FOR IDAHO'S UNSUNG TERMINAL PLEISTOCENE/EARLY HOLOCENE SITE

Due to the deficiency of published material from Owl Cave, many leading archaeologists have dismissed the site as lacking sufficient evidence of a clear association between humans and extinct megafauna. However, a recent examination of records, documents and artifacts from prior excavations reveals the tremendous potential the site still retains in generating critical data on early human adaptations in the Northern Great Basin. This symposium spearheads efforts to renew research at the Wasden Site. These efforts will involve a thorough reassessment of existing collections (including the bison bone bed, proboscidean remains and their reported association with fluted points), recent conservation efforts, and the theoretical and methodological focus of future research at the site.

[279] SYMPOSIUM · NEW STUDIES IN THE ARCHAEOLOGY OF SOUTHERN VERACRUZ, MEXICO

This session brings together scholars involved in current research in and around the Tuxtla Mountains of Southern Veracruz, Mexico. Research conducted recently varies in the scales of analysis, from broad regional surveys to investigations at individual sites. In addition, studies are increasingly varied in their temporal scope. The studies here also employ a variety of methods, such as geophysics, and they examine diverse datasets (e.g., botanical remains). Together these studies propel us toward a more refined understanding of regional prehistory and the ways that Tuxtecos and their neighbors navigated the many dimensions of life in the southern Gulf lowlands.

[280] ELECTRONIC SYMPOSIUM · RECENT ADVANCES IN MESOAMERICAN CAVE ARCHAEOLOGY

Mesoamerican cave archaeology has experienced explosive growth during the last decade as archaeologists recognize caves as one of the best venues for addressing questions dealing with the archaeology of religion. Exploration of new caves and restudies of known sites are rapidly expanding the field's data base. New approaches, particularly the use of ethnoarchaeology, challenge old assumptions and recontextualize research questions. This session presents an overview of the latest research in the discipline.

[281] GENERAL SESSION · HISTORICAL ARCHAEOLOGY

[282] SYMPOSIUM · OUT OF THE BOX: INNOVATIVE APPROACHES TO CULTURAL HERITAGE AND GRASSROOTS COMMUNICATION EFFORTS

As archaeologists grapple with the colonial legacy of archaeology and confront issues of social and economic justice for indigenous peoples, there is a need to invent ways of communicating with descendant groups. This dialogue includes both learning and respecting local knowledge and sharing with stakeholders the knowledge accrued by over a century of archaeological research. The latter is particularly acute where colonial processes have resulted in a contraction of ancestral knowledge, delinking of the past and present, and minimal opportunities for formal education about cultural heritage. In this symposium, participants present innovative approaches to dialogue with local/descendant communities.

[283] FORUM · GRANTS, AWARDS, AND FELLOWSHIPS: FINDING FUNDING IN ARCHAEOLOGY-RELATED FIELDS

(SPONSORED BY STUDENT AFFAIRS COMMITTEE)

The search for funding is a pressing issue in the field of archaeology, and young scholars applying independently for research funding often find they have little or no experience with this task. This forum, sponsored by the Student Affairs Committee, offers an opportunity to remedy this problem. A panel of five professional archaeologists with relevant experience will discuss the grant-writing process, providing tips and suggestions, and answering basic questions about funding application processes. The panelists' varied backgrounds enable them to offer advice on a wide range of project topics including archaeological science, museum and art conservation, and archaeological field schools.

[284] GENERAL SESSION · WOODLAND AND LATE PREHISTORIC SOCIOCULTURAL CHANGE AND INTERACTION**[285] GENERAL SESSION · POTTERY USE, SOCIAL CHANGE, AND SOCIAL INTERACTION IN THE SOUTHWEST U.S.****[286] GENERAL SESSION · ECONOMICS, ENVIRONMENTS, AND HEALTH IN THE OLD WORLD****[287] GENERAL SESSION · ARCHAEOLOGICAL RESEARCH IN MAINE AND NEW BRUNSWICK****[288C] WORKING GROUP · PACIFIC NORTH COASTAL ARCHAEOLOGY: A DISCUSSION OF NEW HOLOCENE DATA**

Much new data has been collected in the 40 years since the groundbreaking Prince Rupert Harbour Project launched the modern era of Pacific north coastal archaeology. This working group discussion brings together an intergenerational and interdisciplinary community of scholars including the director and students on the original project with current researchers and graduate students. New regional data from a variety of survey and excavation projects along the northern coast of BC and Alaska are now available to enhance and develop the culture history, evaluate the existing explanatory models, and explore the links between the archaeological and indigenous oral records.

[289] SYMPOSIUM · ARCHAEOLOGICAL CONTRIBUTIONS TO UNDERSTANDING SOCIO-ECOLOGICAL SYSTEMS: EMERGING COLLABORATIONS BETWEEN ECOLOGY AND ARCHAEOLOGY

Researchers across the globe are finding that strongly integrated interdisciplinary research is essential for grappling effectively with the real-world complexities of socioecological systems. Moreover, there is the growing realization that deciphering human-environmental relations requires the time depth accessible through the archaeological record. Despite an increasing interest in using archaeological knowledge to address contemporary human-environment issues, there seems to be uncertainty as to how to proceed. The papers in this session discuss on-going collaborative research between archaeologists, ecologists, and land managers as a way of exploring the different ways in which archaeological expertise and data can contribute to contemporary problem-solving.

[290] SYMPOSIUM · ARCHAEOLOGICAL APPLICATIONS OF PRACTICE THEORY

Practice theorists argue the archaeological record is the residue of the production,

reproduction, and contestation of cultural structures. This theoretical foundation emphasizes daily practice, routine, and experience as facets of investigation for archaeologists interested in interpreting social structures from economic or material activities. The importance of this theoretical view in archaeology is that social relationships and social actions can be interpreted from the often mundane and habitual actions of everyday life, which is what forms most of the archaeological record. This symposium investigates the application of practice theory to a variety of cultural processes documented in the material record by a diverse group of researchers.

**[291] SYMPOSIUM · A GLOBAL PERSPECTIVE ON ARCHAEOLOGICAL HUMAN REMAINS:
CONVERGENCE OR DIVERSITY IN APPROACHES?**

The study of human remains is as old as the discipline of archaeology but has had chequered histories in different world areas. This session examines past and current tendencies in studies of archaeologically-retrieved human remains across a range of geopolitical settings. Methodological approaches have been increasingly standardised in recent decades. Has this led to a convergence in approaches to archaeological human remains or do significant differences remain? We specifically emphasize research areas outside the USA and Britain, which have tended to be well-represented in Anglophone publications, and seek to elucidate other trajectories in the study of archaeological human remains.

[292] SYMPOSIUM · RECENT DEVELOPMENTS IN SOUTH AMERICAN COASTAL ARCHAEOLOGY

Coastal archaeology has become an important area of archaeological investigation, especially in South America. However, sometimes a broader dissemination of research advances lags behind. This symposium tries to bring together archaeologists working in the region that have varied perspectives on topics such as intensification of marine resource use, emergence of social complexity, subsistence patterns, connections between social organization and coastal resources, among others. The aim of the session is to assess the current status of investigations in South America, and explore their similarities and differences.

**[293] SYMPOSIUM · DEVELOPING ARCHAEOLOGICAL LITERACY: WHAT IS IT? HOW IS IT TAUGHT?
AND HOW CAN WE GAUGE WHAT IS LEARNED?**

(SPONSORED BY PUBLIC EDUCATION COMMITTEE)

Educating the general public has been an important focus for professional archaeologists for more than two decades. However, if public archaeology is to mature, a shared understanding of the core ideas and values associated with it should be developed among the profession. What do we expect an archaeologically literate citizenry to know? This symposium highlights some of the most well established archaeology education programs in the world, the fundamental ideas that support them, and the results of research on actual learning.

**[294] GENERAL SESSION · ARCHITECTURE, SETTLEMENT, AND SUBSISTENCE IN
ARCTIC/SUBARCTIC REGIONS**

**[295] GENERAL SESSION · LANDSCAPE, SETTLEMENT, AND SUBSISTENCE STUDIES IN THE
PACIFIC NORTHWEST**

**[296] SYMPOSIUM · CHOICE, COMPETITION, AND LIVESTOCK MANAGEMENT IN COMPLEX
SOCIETIES: NEGOTIATING RISK AND REWARD IN HERDING PRACTICES**

This symposium focuses on recent research on livestock management in complex societies, particularly on how differing economic goals and strategies among competing social spheres are played out in the decision-making process of herding: balancing the concern for minimizing subsistence risk with the desire for maximizing future reward. Issues to be addressed include the levels at which herding decisions are made (households, villages, centralized administrations), herding goals (resilience/herd security, surplus production, rank/prestige), and how these inform strategies of intensification, diversification, and specialization, actively shaping the development of complex societies and their trajectories of change.

[297] GENERAL SESSION · INVESTIGATIONS OF ANCIENT MAYA ARCHITECTURAL FEATURES**[298] GENERAL SESSION · RESEARCH IN THE SOUTH-CENTRAL ANDES****[299] SYMPOSIUM · SOUTHWEST HERITAGE: STRATEGIES FOR MANAGING AND PRESERVING CULTURAL RESOURCES**

The Southwest provides a unique and challenging arena for managing and preserving cultural resources. This session examines how federal and tribal agencies implement specific strategies to manage and preserve cultural resources located within the Southwest. Strategies include site documentation, stabilization, ruins preservation, Geographic Information Systems (GIS), and incorporation of indigenous perspectives into cultural resource management.

[300] General Session · Cultural Heritage and Archaeology Across the Americas**[301] SYMPOSIUM · MESOAMERICA'S COLONIAL-POSTCOLONIAL TRAJECTORY: ARCHAEOLOGICAL CONSIDERATIONS**

No issue is more relevant to questions of sociocultural change in Mesoamerica than the colonial-postcolonial trajectory. This history envelops three major political-economic conjunctures. In the 16th century, imperial incorporation of Mesoamerica into Spain's transoceanic empire disrupted indigenous development. In the 19th century, the colonies' withdrawal from Spain's empire ignited indigenous insurrections. In the 20th century, the expansion of the U.S.-based global economy occasioned significant demographic, technological, and environmental change. The archaeological evidence of this process has yet to be scrutinized systematically. In this session, researchers working in key Mesoamerican regions examine the material manifestations of this trajectory and test their evidence against the written record.

[302] SYMPOSIUM · CHAN: THE 2000 YEAR HISTORY OF AN ANCIENT MAYA FARMING COMMUNITY IN BELIZE

For over 2000 years, between 800 BC and AD 1200, Chan's residents built homes and agricultural terraces and constructed a small ceremonial center. Chan's occupation history provides a window into life in a small community across an expanse of Maya history. For six years archaeologists have investigated Chan to assess the complex and changing nature of community life and examine how it affected and was affected by broader changes in Maya society. By exploring life at Chan, this session illustrates how understanding the organization of farming communities is critical for our interpretations of the operation of ancient societies.

[303] GENERAL SESSION · PERSPECTIVES IN OLD WORLD PALEOLITHIC ARCHAEOLOGY**[304] SYMPOSIUM · LATE ARCHAIC AND EARLY AGRICULTURAL LIFEWAYS ALONG QUEEN CREEK, SOUTH-CENTRAL ARIZONA: THE U.S. 60 ARCHAEOLOGICAL PROJECT**

As part of an Arizona Department of Transportation sponsored project, Statistical Research, Inc. excavated 13 prehistoric sites situated along U.S. 60 between Florence Junction and Superior, Arizona in 2005-2006. Included among these sites are habitation loci representing 3,000 years of aboriginal occupation. An unprecedented result of the project was the discovery of non-riverine Late Archaic/Early Agricultural settlements represented by securely-dated house groups, human burials, and extramural facilities. We discuss our findings to date, focusing on Cienega (800 BC ~ AD 1) and Red Mountain (AD 1 - 400) phase land use, technology, agriculture, mortuary practices, and chronology.

[305] GENERAL SESSION · RESEARCH IN THE ARCHAIC PERIOD OF THE EASTERN U.S., MIDWEST, AND GREAT LAKES**[306] SYMPOSIUM · LATE PLEISTOCENE ENVIRONMENTS AND EARLY HUNTERS IN THE PUGET SOUND-STRAIT OF GEORGIA REGION, WASHINGTON AND BRITISH COLUMBIA**

Finds of early postglacial vertebrates on the San Juan Islands, Washington, and Vancouver

Island, British Columbia, bring new insights as to Puget Sound and Strait of Georgia paleoenvironments. Isostatic rebound brought emergent landscapes more extensive than today. Early successional plant communities supported ungulates (bison, mountain sheep and deer), ground sloths (on Orcas Island), and large carnivores. Their dates (12.5 to 10.0 14C ka) overlap with the presence of early peoples who used Clovis and lanceolate to stemmed projectile points in this region. Big-game hunting may have played an important role for the First Peoples of the Northwest Coast.

[307] SYMPOSIUM · PUSHING THE ENVELOPE: EXPERIMENTAL APPROACHES TO THE ARCHAEOLOGY OF STONE TOOLS

Stone tools are the oldest, most durable, and most prevalent source of archaeological evidence. Accordingly, the archaeology of stone tools is driven by some of the strongest and oldest traditions in our field, and these traditions have played a crucial role in the development of archaeology as a science. This session is dedicated to honoring the traditions of lithic analysis by challenging widely held ideas and exploring innovative approaches focusing on application of experimental data to archaeological research. Papers cover topics ranging from the earliest Paleolithic of East Africa and Java to the North American Woodland period.

[308] GENERAL SESSION · RESEARCH IN THE PLAINS AND ROCKY MOUNTAINS

[309] GENERAL SESSION · RESEARCH IN THE CHALCOLITHIC AND BRONZE AGE IN EUROPE, EURASIA, AND THE NEAR EAST

[310] SYMPOSIUM · DEFINING SOCIAL INTERACTION: THE PRECOLUMBIAN VISUAL RECORD

How can investigators understand social interaction among ancient peoples through their material culture? The material record boasts information imbedded in imagery, which falls under the purview of art history and the emerging 'anthropologies of art.' Such methods for interpreting the visual record have the potential to reveal levels of social interaction otherwise untapped by traditional anthropological and art historical approaches. Through investigations including the distribution of image tropes, ceramic designs as indicators of interaction, and architecture as a form of legitimization, this session will use the visual record to approach a better understanding of social interaction in the ancient Americas.

[311] SYMPOSIUM · SUSTAINING CULTURAL RESOURCES: ARCHAEOLOGICAL AND HISTORICAL PROJECTS AT ARMY NATIONAL GUARD

The majority of archaeological work in the United States is conducted through cultural resource management investigations funded by Federal and State agencies. The Army National Guard, representing 54 states and territories, is responsible for historic preservation across a vast array of environments. Cultural Resource Management Programs in the Guard are using innovative techniques to explore the past and manage it for the future.

[312] ELECTRONIC SYMPOSIUM · KILOMETER 4 AND THE SOUTH CENTRAL ANDEAN ARCHAIC PERIOD

A decade of archaeological research at the Kilometer 4 (K4) site near Ilo, Peru documents a local sequence of economic, social and cultural changes related to those seen during the Archaic Period throughout the Americas. Papers for discussion in this electronic symposium focus on data from K4, which was occupied between roughly 10,000-1000 BC. Discussions will examine the relationship of data from K4 to those from other sites in Ilo and the greater south-central Andean coast, refining a model of Archaic period society that incorporates population, climate, and social variables as critical factors in the development of early Andean societies.

[313] GENERAL SESSION · LITHIC TECHNOLOGY

[314] SYMPOSIUM · MIMESIS AND ALTERITY IN ANCIENT MESOAMERICA

Michael Taussig's concepts of mimesis and alterity, inspired by Walter Benjamin, are powerful theoretical tools that can contribute to our understandings of ancient

Mesoamerican identity formation and ritual practice. Presenters in this symposium will apply these ideas to analyze iconographic themes found in ancient Mesoamerican material culture. Mimesis and alterity offer a strong theoretical perspective for explaining the stylistic variability in the archaeological record. Talks in this session will demonstrate how mimesis and alterity can help reconstruct ritual meaning and ancient cultural contexts by inferentially linking specific designs to themes in the wider Mesoamerican cultural system.

[315] GENERAL SESSION · **SUBSISTENCE PATTERNS IN THE ANCIENT NEAR EAST**

[316] GENERAL SESSION · **CRAFT PRODUCTION IN MESOAMERICA AND MIDDLE AMERICA**

[317] SYMPOSIUM · **SPATIO-TEMPORAL PATTERNING OF SOUTHWESTERN SUBSISTENCE ECONOMIES**

This symposium presents recent research on prehistoric subsistence economies in the American Southwest. Participants analyze subsistence patterns at a variety of spatial scales. Trends in subsistence patterning are presented at regional, local, and intra-site levels in light of existing theories of subsistence economy change over time. This symposium combines multiple approaches to understand prehistoric subsistence including: lithic technology and raw material sourcing, architectural analysis of storage features, spatial patterning of the paleoethnobotanical record, community location in relation to subsistence resources, and differential access to plant resources. Paleoenvironmental data guide each analytical approach to understand subsistence economies of the Southwest.

[318] GENERAL SESSION · **COMPUTER MODELLING AND SIMULATION**

[319] GENERAL SESSION · **PRE-COLUMBIAN SUBSISTENCE AND SETTLEMENT IN THE CARIBBEAN**

[320] GENERAL SESSION · **RESEARCH IN THE PERUVIAN AND COLUMBIAN HIGHLANDS**

[321] GENERAL SESSION · **MATERIAL CULTURE STUDIES IN THE NORTHWEST**

INDIVIDUAL ABSTRACTS

Abbott, David (Arizona State University)

[119] *Unparalleled Production: Hohokam Pottery Specialization in the Phoenix Basin, Arizona*

Prehistoric Hohokam ceramic production in the Phoenix basin of Arizona was unparalleled in the Southwest by the extent and long duration of specialist manufacture. For more than 500 years, only three spatially concentrated potter groups made more than 90 percent of all pots used in the irrigation-based communities along the lower Salt River. This remarkable stability in the production and distribution networks came to an end during the middle Sedentary period (ca. A.D. 1000-1070) when new groups of artisan specialists dominated production. The mode of production changed again around A.D. 1100, when localized manufacture throughout the valley became the norm.

Abraham, Sarah (University of California)

[237] *Excavations at Pulapuco, Peru: An Investigation into Imperial-Provincial Relationships in the Inca Empire*

This paper examines the imperial-provincial relationship between the Inca empire and the Lucanas people of the southern highlands of Peru. To understand the transition from autonomous polity to subjugated population, archaeological investigations were undertaken at the principal Lucanas site of Pulapuco. Data collected during the 2006 field season will be presented and the nature and magnitude of political, economic, and social change at the site will be assessed. Finally, these findings will be compared to information from neighboring ethnic groups, placing Pulapuco in its regional context and evaluating local

responses to imperialism on a larger scale.

Abraham, Sarah J. [88] see *Edwards, Matt; [298] see Capriata Estrada, Camila*

Aceituno Bocanegra, Francisco Javier (Universidad de Antioquia) and Nicolas Loaiza Diaz (Temple University/Ph D student)

[320] *Agriculture origins on the Colombian Corillera Central*

This talk's objective is to present the latest data about agriculture origins on the Colombian Cordillera Central (northern South America). Archaeological data recovered from several sites indicate that forager societies that colonized and settled on the region since late Pleistocene managed a number of plants; transforming the vegetal coverage and therefore altering native forests. By middle Holocene archaeological and microbotanical evidences indicate they practiced an early agriculture of several taxa; such as Dioscorea, Manihot, Xanthosoma, and Zea Mays. The data demonstrate the early adoption and quick dispersals of cultigens throughout northern South America.

Ackerman, Robert (Washington State University)

[275] *Microblade Assemblages in Southwestern Alaska: An Early Holocene Adaptation*

Three sites with microblade assemblages, Nukluk Mountain, Ilnuk, and Lime Hills Cave provide insights into the culture of those hunting groups who occupied the Kuskokwim River region in southwestern Alaska at the beginning of the Holocene. The Nukluk Mountain site was a lookout station where hunters awaited the fall migration of caribou at the edge of the Kuskokwim River lowlands. The Ilnuk site served as a lookout site overlooking the Holitna River and where microblade production was an important site activity. Lime Hills Cave overlooking the Stony River lowlands was a temporary stopover where hunters replaced edge-damaged microblades from slotted antler arrowheads.

Acosta, Guillermo (Universidad Nacional Autonoma de Mexico)

[32] *Late Pleistocene and Early Holocene Hunter-gatherers in tropical environments, Chiapas, Mexico: Current Research*

This paper summarizes the last investigations carried out by the "Cazadores del Tópico Americano" Project in the northwest of Chiapas, Mexico, and its implications in the current debate on the settlement of the tropical regions of Mexico and Central America.

Acosta Ochoa, Guillermo [242] see *Mendez Torres, Enrique*

Adams, Aron [2] see *Diederichs, Shanna R.*

Adams, Dean [95] see *Otarola-Castillo, Erik*

Adams, E (Arizona State Museum)

[228] *Materialization of Ritual in the Archaeological Record at Chevelon Pueblo, Northeastern Arizona*

Four seasons of excavations at Chevelon Pueblo, a 500-room, 14th century, ancient Hopi village in northeastern Arizona, have yielded a wide array of remains that suggest religious ritual behaviors as their cause. These include structural burning, robust floor assemblages, and fill deposits involving multiple rare and unusual artifacts. The asymmetrical distribution of these deposits at Chevelon suggests consolidation of power and negotiation of social identity were involved. From the perspective of Chevelon, I will address bigger picture issues of aggregation, site layout, and the meaning of intensified religious ritual during the 14th century in the Pueblo Southwest.

Adams, Jeffrey (SWCA)

[303] *The Geoarchaeology of Anghilak Cave, Uzbekistan*

Anghilak Cave is located in the rugged limestone foothills of the Zerafshan Mountains of southeastern Uzbekistan. It is situated within a deep canyon that cuts through the Karatube Hills. The cave contains two primary depositional units (Units 1 and 2) comprising at least five stratigraphic horizons (Strata I-V). The two depositional units are separated by a discontinuity representing a significant change in the cave's micro-environment and

depositional regime. The cave's deposits have produced four AMS radiocarbon dates ranging from 2,798 to 43,900 RYBP, indicating that Anghilak Cave has been occupied by hominids since the Last Full Glacial period (OIS-3).

Adams, Karen (Crow Canyon Archaeological Center) and Michael Diehl (Desert Archaeology)

[273] *Vegetation, Useful Plants, and Archaeobotanical Evidence from Puerto Penasco*
The shores of the northern gulf of California are among the most arid locations in the world. Salt and wind tolerant plants grow in distinct zones that extend away from the ocean and its salty moisture laden breezes. Within those zones are plants of known interest to historic groups such as the Seri. These plants would provide food, fuel, and moisture for steaming shellfish such as clams, gastropods, and mussels. Limited analyses of archaeological shell midden samples confirm some of the fuels and possible foods eaten along the Gulf in prehistory.

Adams, Karen [89] see Martinez, Natalia; **[34]** see Hard, Robert J.

Adams, Karen R. [185] see Roney, John

Adams, Martin (Portland State University)

[128] *Paleoenvironmental Change in the Willamette Valley (Oregon) Utilizing Insect Remains from a Quaternary Peat Deposit*
Beetle remains extracted from a peat deposit are used to track late-Pleistocene through mid-Holocene paleoenvironmental change in the Willamette Valley. Five radiocarbon dates, and the geochemical analysis of a tephra layer, provide a chronology from 5,000 to 14,000 cal. yrs B.P. The Mutual Climatic Range (MCR) method is employed, utilizing carnivorous and scavenger beetles to reconstruct past temperatures. Herbivorous beetles and other insects are used to reconstruct vegetation and soil conditions. In addition to possibly reflecting large-scale climate events, the local insect record has important implications for regional archaeology during this early period of human occupation of the Pacific Northwest.

Adams, Ronald (AINW)

[106] *Megaliths and Labor Mobilization in West Sumba, Indonesia*
Megalithic monuments can require substantial inputs of labor to construct. The presence of these large stone monuments in various locales archaeologically has prompted considerable discussion of their social and symbolic significance. The issue of labor mobilization essential for the erection of megaliths has received little attention comparatively. In this paper, I present an ethnoarchaeological examination of the labor dynamics associated with the living tradition of building megalithic tombs in West Sumba, Indonesia. The case of West Sumba shows how large pools of both kin and non-kin labor can be assembled in the absence of corvée arrangements and centralized regional authority.

Addison, David (Samoa Studies Institute, American Samoa Community College) and Neil Gurr (Community and Natural Resources, American Samoa Community College)

[33] *How much irrigation was there in ancient Samoa?*
Ancient Samoa agriculture is usually portrayed as having been focused on various dryland systems. This paper quantifies wetland taro (*Colocasia esculenta*) fields on five islands in Samoa and estimates production levels. We then speculate on how this resource may have been used by the populations that exploited it.

Adolph, Art [172] see Crossland, Nicole A.; **[172]** see Carlson, Eric S.

Adovasio, J. M. [208] see Vento, Frank; **[305]** see Campbell, J. Michael

Adovasio, James (Mercyhurst Archaeological Institute)

[42] *Perishable Fiber Artifacts and Paleoindians: New Implications*
Recent research demonstrates that perishable industries were a well-established, integral

component of Upper Paleolithic technology in many parts of the Old World. Extant data suggest that these technologies played a vital role in the ecological success of late Pleistocene populations, specifically including the first Americans. This paper explores the varied roles of early fiber technology in the New World, examining adaptation, impact on social organization, and alteration to food procurement strategies. It is suggested that perishable artifact manufacture was far more important in New World colonization than any other more durable artifact class, specifically including stone.

Adriano Moran, Cristina [180] see McClung de Tapia, Emily

Agha, Andrew [63] see Poplin, Eric C.

Aguero, Carolina (Universidad Católica del Norte)

[157] *Desarrollo de la textilería arqueológica de la quebrada de Tarapacá (norte de Chile)*
Resultados preliminares de las investigaciones realizadas en la quebrada de Tarapacá (norte de Chile) indican que ésta fue ocupada por diferentes grupos culturales durante una larga secuencia cronológica. Con el fin de caracterizar cada uno de estos grupos se estudian los textiles de cuatro sitios arqueológicos de distinta funcionalidad (cementerio y habitación) cuya cronología remite a los períodos Formativo, Desarrollos Regionales e Inka. En esta ocasión, presento los resultados de este estudio que, desde la perspectiva de estos materiales, tienden a la comprensión de la historia cultural y la dinámica poblacional de esta quebrada, y finalmente, a su integración a los procesos regionales.

Aguilera, Miguel (Arizona State University)

[134] *Figuring the México World at Malinalco: Ideology and Socialization at a Kiva-Like Lookout Complex*

Mesoamerican warfare conventions encouraged behavior based on aesthetics of power; however, archaeological skeletal interpretation often ignores this politically contingent context by focusing on a narrow range of possibilities, often that of so-called "sacrifice." Embedded in the "habitus" of the individual, and community, México warriors learned the complex behavioral motivations affecting how they perceived and ritually interacted with others. Their cosmologically charged warfare codes, focused on performance, prestige, execution, and feasting, encouraged ideal models of service and courage. Attention will be placed in this paper on Mesoamerican wide indigenous notions of warrior socialization as perhaps practiced at such sites like Malinalco.

[282] *Discussant*

Aimers, Jim (Institute of Archaeology, UCL) and James Stemp (Keene State College)

[267] *The Grooved stone spheres from Baking Pot, Belize: A Design Theory Approach*
Ever since Gayel Horsfall's (1987) innovative use of design theory to study ground stone tools in a contemporary Maya context, archaeologists have noted its potential as a research device. This study of 112 Maya grooved stone spheres recovered from the Terminal Classic at Baking Pot, Cayo District, Belize, relies heavily on design theory as an analytical tool. Considerations of raw material acquisition and physical properties, in relation to tool production, standardization, and use are explored as important factors in the design of these ground stone artifacts. Patterns of association between raw materials, production techniques, tool sizes and shapes are evaluated.

Akins, Nancy

[20] *Making a Living in the Upper Rio Grande Area: Health and Mobility in Prehistoric Populations of Northern New Mexico*

Recent excavations at sites dating between about AD 700 and 1450 provide additional information on the human populations inhabiting the area between Cochiti Pueblo and Pojoaque, New Mexico. Often living in smaller more mobile groups and relying on a diverse subsistence base, the health profiles and indications of activity patterns differ from those of other regions in the Southwest. Rather than presenting a uniform picture of prehistoric life, populations from these sites suggest a wide and changing array of subsistence and organizational strategies.

Akoshima, Kaoru (Tohoku University)

[313] *Lithic microwear analysis in Japanese prehistoric studies: Functional interpretation and technological organization*

Lithic microwear analysis for functional determination has been applied widely in Japanese archaeology. However, the fundamental problem of discrepancy between experimental results and actual microwear patterns on excavated artifacts remains to be solved. Tohoku University Team has developed the method since 1976, originally directed by Serizawa. The interpretative criteria are based on 650 controlled experiments for Japanese lithic raw materials. The paper proposes a new approach to the traceological problem with a framework of technological organization and the "palimpsest characteristics" of microwear. Examples from the Late Palaeolithic, Jomon, and Yayoi periods are discussed.

Akpinar, Ezgi (University of Cincinnati), John G. Jones (Washington State University) and Nicholas Dunning (University of Cincinnati)

[158] *Aguadas of San Bartolo and Xultun, Petén, Guatemala*

Aguadas are human-modified ponds that occur ubiquitously at ancient Maya settlements of all sizes in the interior portions of the southern Maya Lowlands. In 2005 and 2007, sediment cores were taken from four aguadas near San Bartolo and Xultun, Petén, Guatemala. Excavations were undertaken at these and two other aguadas. While each aguada provides an only partial history of the region, their records combine to reveal much information about ancient environmental change, settlement, agriculture, and water management.

Akyuz, Linda (ASM Affiliates)

[7] *Site Relationships and the Cultural Landscape of the Palos Verdes Peninsula*

The Palos Verdes Peninsula contains numerous sites employed by the Gabrieliño/Tongva. Many of these sites have been disturbed since they were first recorded. The goal of this study is to reassess these sites in order to determine connections between the smaller seed gathering/processing and hunting sites and the larger coastal sites. Although the steep cliffs and canyons of the peninsula may have made land travel between coastal sites and sites on the terraces of the peninsula difficult, the array of sites appears to represent an interconnected cultural landscape.

Aland, Amanda (Southern Methodist University)

[131] *Evidence of an Inka Presence at Santa Rita B, Chao Valley, Peru: A Preliminary Report*

Traditional reconstructions of Inka administration on Peru's north coast propose indirect control of the southern valleys from Casma to Moche Valley, with little evidence of Inka occupation. Preliminary research at Santa Rita B in the Chao Valley suggests significant Inka presence, demonstrated by the presence of a Chimú-Inka sector containing architecture bearing Inka and Inka-influenced features (circular and rectangular rooms, niche-like tomb lintels, stairways). Analysis of pottery in the sector indicates incorporation of typical Inka forms and motifs into local Chimú assemblages. Preliminary research suggests direct Inka administration in the Chao Valley, which will be investigated during subsequent field seasons.

Albaitero Rosales, Juan Bernardo [14] see Gonzalez-Crespo, Norberto

Albarracín-Jordan, Juan V. [190] see Browman, David L.

Albert, Rosa María [259] see Berna, Francesco

Albush, Cassandra J. [2] see Hooper, John M. D.

Alconini, Sonia (University of Texas At San Antonio)

[237] *The Inkas in Charazani: Understanding the Nature of Inka Control in the Eastern Valleys*

This paper will present preliminary results of on going excavations in two major settlements of the eastern Charazani valley, inhabited by Kallawayas. By analyzing the function of

public architecture and distribution of Inka cultural materials, the nature of Inka control in the region will be addressed. This paper will also explore the use of religion in the establishment of power architecture, and the appropriate of existing ritual spaces for political ends. The interaction between polities from the Circum-Titicaca and the eastern valleys will also be evaluated, including Yaya Mama and Tiwanaku.

Aldana, Gerardo (University of California Santa Barbara)

[134] *On Stars and Skeletons: reflections on the role of religion in state-sponsored violence*
Ritual warfare and human sacrifice are often portrayed as characteristic of Mesoamerican civilizations. Purportedly backed by mythological charter under Aztec rule, for the Classic Maya, analogous activities have been read from hieroglyphic inscriptions at several archaeological sites. But the archaeological and historical records require substantial interpretation to get from observable patterns to cultural motivation. This paper takes up specific hieroglyphic records interpreted as ritual warfare—the so-called Venus calibrated “Star Wars”—to suggest that state-sponsored violence in ancient Mesoamerica might have been less tied to religiously mandated activity and better read as the exertion of ‘technologies of power.’

Aldana, Gerardo [257] see Solari, Amara L.

Aldenderfer, Mark (University of Arizona)

[101] *The Power of the Potato: Mid-to-Late Holocene Resource and Patch Choice in the Semi-Arid Lake Titicaca Basin*

In the Lake Titicaca basin of southern Peru, Middle Holocene aridity was followed by moderate climatic amelioration in the Late Holocene. This paper explores how tubers—destined to become a key Andean domesticate—were incorporated into the diet over a 4000-year period. Always present but little used in the Middle Holocene, tubers rose in ranking in the Late Holocene diet as their habitats grew in size, permanence, and predictability. Human populations in the region began a steady increase only after this process was initiated. Alternative models of the rise of the tuber are evaluated within this context.

[263] *Discussant* [57] *Discussant*

Aldenderfer, Mark [197] see Moyes, Holley; [58] see Flores, Luis

Alegria, Crystal [293] see Clark, Joelle G.

Alejo, Lauren and Sergio Garza (UC Riverside)

[280] *Women and Cave Use in the Northwestern Guatemalan Highlands*

The widespread prohibition against women entering caves in the Maya area has been documented for over a century and a half in the form of normative rules or as observed behavior. The presence of women on the California State University, Los Angeles Field Program in Guatemala provided the opportunity to observe how these rules were applied, negotiated and, in some cases, contested. The detailed analysis of actual incidents offers a more nuanced view of the way that such rules are actually applied in real social settings and provides a better model for archaeological reconstruction.

Alexander, Craig (Department of Archaeology)

[216] *The role of rock-art in the creation of place in Valcamonica: a multiscale analysis*

The prehistoric rock-art of Valcamonica (Italy) has traditionally been studied as art rather than as elements of material culture engaged in the creation and maintenance of place. Agnew (1987) noted that places have three defining characteristics: location, locale (materiality) and a sense of place. Such places can exist at a range of spatial scales and my research addresses three: panel, site and valley. GIS-based analyses of original field-collected data assist in understanding the relationships of the petroglyphs to each other and to facets of the physical and human environments - their role in making places.

Alexander, Rani (New Mexico State University)

[301] *The Secondary Products Revolution Comes to Yucatán*

In this paper I examine changes in Maya agrarian ecology resulting from the introduction of European secondary products to Yucatan after the Spanish invasion. Andrew Sherratt

proposed that 19th-century industrial capitalism in Europe was predicated on the substitution of animal traction and derivative secondary products for human muscle power. These substitutions in Yucatan altered 1) existing mutualistic relations among humans, plants and animals; 2) patterns of agricultural movement; and 3) processes of agricultural skilling and de-skilling. I discuss variation in the intensity and trajectory of the secondary products revolution using archaeological and documentary evidence of landscape change and technological change in material systems.

[77] *Discussant*

Aliphat, Mario (Colegio de Postgraduados Campus-Puebla, México)

[32] *The Zacoalco-Sayula Basin : Early Human occupation in Western Mexico.*

In this paper we will be discussing the evidence of human occupation in the Zacoalco-Sayula Basin (ZSB) in Jalisco, Mexico. The ZSB offers a great potential for research of the earliest phases of human occurrence in Mesoamerica, nevertheless the region represents a very dynamic geological and depositional environments which influences the archaeological record in a complex manner. The results of an interdisciplinary study will put forward our recent understanding of the region, as well as up to date evidence for early human presence.

Alix, Claire (University of Alaska Fairbanks, Alaska Quaternary Center) and Glenn P. Juday (Department of Forest Sciences, University of Alaska Fairbanks)

[17] *In the Steps of J.-L. Giddings: Building Floodplain Tree-ring Chronologies to Date Alaskan and Arctic Driftwood*

We have collected tree-ring cores of *Picea glauca* and driftwood disks along the Yukon and Kuskokwim River floodplains, re-initiating tree-ring research on driftwood and archaeological wood in Alaska. Our dendrochronologies represent up to 300 years of record. They show that radial growth signals are present in Alaska floodplain trees indicating specific regions of tree growth. Successful crossdating of coastal driftwood leads to calculating lag time between death of the tree and its actual use by people. Ultimately, these floodplain chronologies will allow dating of structural wood from Alaskan coastal sites, while providing a record of major environmental events.

Allard, Francis (Indiana University of Pennsylvania)

[170] *Horse focused ritual practice in Mongolia: an example of long-term continuity?*

Established in 2001, the Khanuy Valley Project on Early Nomadic Pastoralism in Mongolia has been investigating the emergence of mobile herding societies in Mongolia. Of the many types of Bronze Age (1500 – 500 BCE) structures that mark the landscape, small stone built mounds cover horse skulls that typically point toward the east and southeast. A recent ethnographic study conducted by the project has identified intriguing parallels between Bronze Age and modern day practice as it pertains to the ritual treatment of horse remains and their likely association with the sun.

Allen, Kathleen M. Sydoriak [192] see Lockard Reed, Angela K.

Allen, Melinda (University of Auckland)

[33] *Late Holocene climate variability and subsistence economies in the Marquesas Islands*
New research indicates that centennial-scale climate variability in the central Pacific over the last millennium did not mirror that of the Northern Hemisphere. Coral studies, climate modeling, and other evidence indicate warmer wetter conditions during the "Little Ice Age" (ca. AD 1550 to 1900) and intensified ENSO activity around the 17th century AD, and possibly between the 13th to 14th centuries. I consider this new paleoclimate evidence in the context of the resource-limited Marquesas Islands of Polynesia. Attention is given both to local expressions of climate variability, and its effects on Marquesan subsistence economies and socio-political patterns.

[33] *Discussant*

Allen, Scott (UFAL/UFPE)

[300] *Inventing Palmares: Public Imagination and the Archaeology of the Serra da Barriga*
Recently completed, the Quilombo dos Palmares Memorial Park on the Serra da Barriga,

location of the principal maroon community of Palmares in the 17th century, employed 'official history' in its creation and subsequent presentation to the public. Curiously, archaeology indicates an irrefutable Amerindian presence on the site in pre-colonial times and at least a strong influence concomitant with Palmares in the 17th century. Plans for continued archaeological research at this site present a rather difficult challenge: how to present the archaeology of the Serra da Barriga to the public as multivocal, when it is known only for its maroon past?

Allison, James (Brigham Young University)

[285] *Abajo Red-on-orange and Early Pueblo I Cultural Diversity in the Northern San Juan Region*

During the early Pueblo I period, between A.D. 750 and 800, the first aggregated villages formed in what are now southeastern Utah and southwestern Colorado. At the same time, a new ceramic type, Abajo Red-on-orange, appeared and became the predominant decorated ceramic type at some early villages. Both the technology and the highly variable designs of Abajo Red-on-orange were unprecedented in local ceramics, suggesting the involvement of immigrant potters, a period of unusual innovation, or both. This paper documents the technology, distribution, and designs of Abajo Red-on-orange and what they suggest about early Pueblo I cultural diversity.

Allison, James [222] see Hagopian, Janet

Alt, Susan (Indiana University Bloomington)

[15] *Moving People between Politics and Ritual*

Conventional wisdom held that the development of Mississippian culture in the American Bottom (circa A.D. 1000) was based in local evolutionary processes. More recently I posited that the Woodland to Mississippian transformation was a complex social process born of interactions between local people and immigrants. These interactions fueled a new cultural landscape, altering relationships between rulers and ruled. Here, I discuss a Cahokian administrative center founded in the midst of upland immigrant villages at the same time a nearby mound center was abandoned. Evidence from these centers implicates negotiations between immigrants and Cahokians in the creation of a new sense of sacred and secular that helped shape a new political order.

Altaha, Mark (WMAT-Heritage Preservation Office) [271] *Discussant*

Alten, Helen (Northern States Conservation Center) [283] *Discussant*

Altizer, William

[114] *Culture Contact, Religious Conversion and Native Response: An Archaeological Examination of the Native American Experience at the Spanish Missions of San Antonio, Texas*

The effects of the Spanish missionization process on the Native American populations of the Americas were profound. How did these native populations respond to the demands of mission life, and in what ways were they able to maintain their cultural identity under the Spanish colonial regime? This paper examines the ways in which archaeology can address these questions of cultural continuity at the eighteenth-century Spanish missions of San Antonio, Texas, and discusses whether a world-systems approach might be a helpful theoretical context within which to examine the dynamics of culture contact and native response at mission sites.

Altschul, Jeffrey (Statistical Research, Inc.) and Carla Van West (SRI Foundation)

[108] *Identifying and Planning for Cultural Heritage Resources as part of Department of Defense Activities in Foreign Countries*

The Department of Defense (DoD) recognizes the need to avoid or reduce impacts to sensitive cultural resources when military activities take place in host nations and combat arenas. Recently, the Legacy Program funded a feasibility study to (1) develop and partially populate a database and a GIS data-layer for outside continental U.S. (OCONUS) regions where DoD personnel are deployed, (2) assess the availability of needed cultural resource information, and (3) make recommendations concerning how to develop these OCONUS

cultural resource data layers in future efforts. This paper presents the results using the Balkans and Central America as test cases.

[191] *Discussant*

Alvarado Léon, Claudia [14] see *Gonzalez-Crespo, Norberto*

Alvarez, Marco [109] see *Terry, Richard E.*

Alvarez, Myrian [139] see *Zurro Hernandez, Debora*

Álvarez, María [117] see *Gutierrez, Maria A.*

Amador, Fabio (National University of El Salvador)

[59] *Oriente: cultural border or transitional zone*

The Archaeological Atlas of Eastern El Salvador is a project that focuses on the documentation of cultural patrimony in eastern El Salvador. Oriente is a largely unexplored region and considered the southeastern Mesoamerican periphery. During the past two years, research conducted by a team from the national university of El Salvador, has been creating a digital archaeological database that will replace the outdated paper archaeological national site registry. This process has allowed the recovery of new information from previously unexplored sites and hopes to address issues regarding cultural change, interaction, and identity in a poorly known region.

Amador, Julio (Universidad Nacional Autónoma de México) and Adriana Medina (Escuela Nacional de Antropología e Historia)

[104] *Los cerros de Trincheras en el noroeste de Sonora, Una mirada desde la arqueología de paisaje*

The paper interprets the evidence of several archaeological sites in the Northwest of Sonora, from the perspective of definite symbolic principles, present in the material culture (architecture, rock art, ceramics and lythic) and the relation culture-landscape that can be induced from their structure, organization, from hypothetic archaeoastronomic orientations of structures, from the iconographic meaning of rock art and from ethnographic and ethnohistoric data.

Amaroli, Paul (Fundacion Nacional de Arqueologia de El Salvador) and Karen Bruhns (San Francisco State University)

[37] *Managing Archaeological Parks in El Salvador*

El Salvador has eight national archaeological parks, of which five have been developed for tourism. Under agreements with the governmental entity for culture, CONCULTURA, the Salvadoran NGO FUNDAR has managed one of these since the year 2000, and was entrusted with two more in 2005. All three parks were formerly in some disarray. Problems included deficiencies in basic facilities, inappropriate use, security issues, interpretation, and the protection and investigation of archaeological features. FUNDAR has vigorously attacked these problems. CONCULTURA's decision to utilize and NGO with archaeological experience has resulted in a more effective presentation of El Salvador's past.

Amartuvshin, Chunag [190] see *Honeychurch, William*

Ambrose, Stanley (Univ of Illinois Anth Dept)

[35] *Oxygen isotope variation in modern and prehistoric human bones in eastern and southern Africa*

Oxygen isotope ratios of human bones of 13 modern and prehistoric populations from east, east-central and southern Africa show small mean differences and high overlaps at 1 SD. Iron Age and modern Bantu farmers from high rainfall areas have significantly lower ratios than those from drier regions. Bone collagen carbon and nitrogen isotope ratios may provide some insight into the dietary and climatic bases for regional differences. Intra- and inter-specific variation in wild herbivore oxygen isotope ratios within teeth may provide insight into variability within habitats. Intra- and inter-tooth variation may reflect seasonal and inter-annual climatic variation rather than mobility.

Ambrose, Stanley [170] see *Dong, Yu; [35] see Meiggs, David C.; [6] see Coleman, Magen E*

Ames, Kenneth (Portland State University) and Loren Davis (Oregon State University)

[142] *XRF analysis of contact-era copper artifacts from the Meier and Cathlapotle sites, Lower Columbia River*

Before the fur trade, Native copper was a precious metal in the Northwest. The flood of copper during the fur trade created the methodological problem of distinguishing Native from European copper. Excavations at the Meier and Cathlapotle sites yielded 170 copper artifacts from domestic contexts spanning AD 1400 – 1830. Since Native copper objects are probably rare, sampling for isotopic analysis might miss them. Isotopic analysis of the entire assemblage with a Niton portable XRF machine identified artifacts with high probabilities of being Native copper as well as isotopic differences among classes of artifacts made of trade copper.

[288] *Discussant*

Ames, Kenneth M. [175] see *Davis, Sara J.*

Amrhein, Laura (University of Arkansas-Little Rock)

[23] *A Reconsideration of Nineteenth and Twentieth Century Maya Scholarship and Terminal Classic Maya Phallic Imagery*

Nineteenth and early 20th century scholars such as John Lloyd Stephens, Augustus Le Plongeon and Alfred Tozzer were intrigued with ancient Maya culture and art. They documented numerous structures and associated art including distinctive phallic sculptures created approximately 800 A.D. Many of these phallic sculptures were destroyed, hidden and described in literature as "lewd," "erotic" and as having non-Maya stylistic traits. However, iconographic analysis suggests these sculptures were a significant art form that symbolized ancient Maya cosmology and religion. This paper will critique early scholarship and the role early authors played in shaping interpretations of Terminal Classic Maya art.

Amundson, Leslie [308] see *Cyr, Howard J.*

Anaya, Armando [253] see *Folan, William J.*

Anaya Hernandez, Armando (Universidad Autonoma De Campeche) and J. Casey O'Neill (I.R. Wilson Consultants Ltd.)

[318] *Archaeological Predictive Modelling in British Columbia, Canada: Two Alternative Approaches*

Archaeological predictive modeling can be done following either a deductive or an inductive approach. The former relies strongly on ethnographic analogy and/or on theories of human behavior making a priori statements regarding the location of archaeological sites. The latter are based on the archaeologist's empirical knowledge of a specific area under the assumption that the non-cultural aspects of the environment correlate in the prediction of the presence of an archaeological site. In this paper we present two alternative models based on a combination of the above-mentioned approaches and put them to the test with recent field observations across the B.C. landscape.

Anderies, John [134] see *Nelson, Ben A.*

Anderson, David (The University of Tennessee) and Scott Meeks (University of Tennessee)

[143] *The Impact of the Younger Dryas on Paleoindian Cultures in the Southeastern United States*

The Younger Dryas (ca. 12,900 to 11,600 cal yr BP), coeval with the terminal or Late Paleoindian period in the Southeast, is a time of great change. The widespread Clovis tradition fragmented, and more geographically circumscribed cultural traditions emerged. Human populations appear to have been quite low at the beginning of the period, while at its end, large numbers of people are apparently present across the region, based on the numbers of sites and artifacts reported. Population levels apparently grew dramatically, and technological organization changed to accommodate changes in climate and biota.

[236] *Moderator*

Anderson, J. Heath (The Pennsylvania State University)

[97] *Tepeaca, Puebla Classic and Postclassic Ceramic Chronology and Settlement Patterns*

In the late 1990s, Penn State archaeologists carried out a program of surface survey and excavation in the vicinity of Tepeaca, Puebla. Tepeaca was once the principal community of an Aztec tributary province of the same name, and may have been important in the Classic period as part of important 'trade corridors' linking Teotihuacan with points to the southeast. Data on the ceramic chronology will be presented, along with discussion of settlement patterns during the Classic and Postclassic periods.

Anderson, Jae [65] see *Madden, Odile M*

Anderson, Lisa [223] see *Lee, Esther J.*

Anderson, Patricia (CEPAM)

[115] *A reflection on some systematic uses of plants during the Natufian*

Cereal obtention vs broad-spectrum gathering lacking intentionality, may not be the only relevant hypotheses for Natufian plant use strategy. Most Natufian flint tools interpreted through microwear analysis to be used for harvesting plants were used to obtain wild cereal grain, but others probably harvested leaves of a grass, according to experiments and recent ethnographic sickle-harvesting research. Tool use data alone cannot give a statistical picture, and harvesting can occur without using tools. However, these proxy data underline systematic harvesting of particular grasses for food, for basketry objects, and use of specific greens as medicine and food.

[189] *Discussant*

Anderson, Phoebe (Anthropology Department)

[60] *Pacific Northwest sea-surface temperature history derived from archaeological shells*

In the Pacific Northwest, zooarchaeologists are applying optimal foraging models to determine if the fauna suggest resource intensification occurred over time and if that intensification was caused by resource depression. Thus far the results are inconclusive, some cases support resource depression and others refute it. This inconsistency may be partially explained by past environmental change. This paper presents a sea-surface temperature history for the Pacific Northwest derived from oxygen isotopes samples of archaeological shells from the San Juan Islands. These results can be used to determine how changes in the marine climate are influencing faunal patterning in archaeological collections.

Anderson, Shelby and Adam Freeburg (University of Washington)

[220] *Human and Environmental Dynamics at Cape Krusenstern*

The UW and NPS are undertaking a new interdisciplinary project at Cape Krusenstern in Northwest Alaska. Our focus is dynamic human-environment interactions and technological change across the 4,000 years represented by beach ridge archaeological deposits. This project offers an opportunity to test a model of the adoption and spread of ceramics in Alaska based on the relationship between climatic variability, changing subsistence practices, and technological innovation. Zooarchaeological data will inform ceramic analysis by providing paleoenvironmental and subsistence information, and will also be central to study of shifting foraging patterns and the changing ways that people utilized their landscape at Krusenstern.

Anderton, John (Northern Michigan University), Robert Legg (Northern Michigan University) and Robert Regis (Northern Michigan University)

[30] *Geoarchaeological Approaches to Site Location Modeling and Archaeological Survey, Pictured Rocks National Lakeshore, Michigan, USA*

In the past, archaeological survey in the Pictured Rocks National Lakeshore has been hampered by dense forests and lack of soil exposures resulting in the discovery of few prehistoric sites. In an effort to improve the understanding of the park's prehistoric settlement, a geoarchaeological approach including paleoshoreline mapping and site

location analysis was undertaken to create a GIS predictive model of potential site locations. This model was then used to direct archaeological survey efforts, which resulted in the discovery of 23 new sites.

Andras, Paula [129] see *Rafferty, Janet*

Andrefsky, William (Washington State University)

[53] *hafted Biface Life-History and the Organization of Technology*

Projectile Points and hafted bifaces are used as multifunctional tools and have been shown to be effective cutting utensils as well as tips for spears and darts. The production, use, maintenance, and discard of these tools can be characterized as their "life-history." In this paper I explore the role of raw material proximity and forager travelling patterns related to hafted biface life-histories. I show that the known location of raw material sources within a forager's circulation range influences how they provision their tool-kits and ultimately consume and discard their tools. Hafted biface life-history is used to infer forager organizational patterns.

[191] *Chair*

Andres, Christopher [174] see *Wells, Joshua*

Andrews, Bradford (Pacific Lutheran University) and Michael Glascock (University of Missouri Research Reactor)

[43] *Elites and Stone Tool Economics in Ancient Mesoamerica: The Case of Epiclassic Xochicalco*

Analysis of data from Xochicalco's civic-ceremonial center indicates limited elite involvement in the acquisition and production of obsidian stone tools. This finding differs from what has been reported for many other major ancient Mesoamerican sites. This paper reviews the stone tool assemblage from Xochicalco's elite zone, focusing on the obsidian sources and lithic technology represented, in addition to the apparent functional emphasis of its implements. These lines of evidence have important implications for understanding the role of stone tools in Xochicalco's political economy.

Andrews, E. Wyllis (Middle American Research Institute), Christopher Gunn (University of Kentucky) and George J. Bey (Millsaps College)

[203] *Rethinking the early ceramic history of the northern Maya lowlands: New evidence and interpretations*

Reassessment of the ceramic sequence of Komchen, in northern Yucatan, and new ceramic evidence from the southern Puuc site of Kiubic support the existence of a regionally variable ceramic tradition in the northern Maya lowlands earlier than has been thought. Ek complex ceramics from Komchen, originally assigned to the Middle to Late Preclassic transition, are now believed to predate the Early Nabanche ceramic complex. Recently excavated ceramics from the lowest stratigraphic levels at Kiubic exhibit incised decorative modes much like those of Ek at Komchen. Motifs at both sites recall pre-Mamom incised designs in the southern lowlands.

Andrews, Thomas [260] see *MacKay, Glen R.*

Andrews V., E. Wyllis [177] see *Miller, Katherine A.*

Andrus, C. Fred (Department of Geological Sciences, University of Alabama) and Miguel F. Etayo-Cadavid (University of Alabama)

[231] *Indurated sediments at Quebrada Jaguay*

A horizon of indurated sediments separated the two main occupation levels excavated at Quebrada Jaguay. These sediments were halite-cemented and their morphology indicated that they became indurated at or near the living surface during or shortly after occupation of the site. This is in contrast to indurated sediments found in other Peruvian coastal localities, and in nearby non-archaeological contexts that are significantly different in terms of cement mineralogy, morphology, and depth of formation. These observations suggest that the induration at Quebrada Jaguay was related to human activity, rather than regional

environmental conditions.

Andrus, C. Fred T. [243] see *Rich, Kelley W.*

Andrus, Fred [231] see *Jones, Kevin*

Andrushko, Valerie (Southern Connecticut State University), Antonio Simonetti (University of Alberta), Michele Buzon (Purdue University) and Robert Creaser (University of Alberta)

[274] *Using strontium isotope analysis to investigate a group of child sacrifices from the Inca heartland*

This study uses strontium isotope evidence to investigate a possible capacocha, the Inca ritual of child sacrifice, from the site of Chokepukio, Peru. During the 2004 field season, seven children were discovered buried together with a large assemblage of luxury artifacts. The isotope results indicate that at least one of these children was non-local, with a second child yielding a 87Sr/86Sr value that may be non-local. When considered together, the osteological, archaeological, and isotopic evidence suggest that a capacocha event occurred at Chokepukio, confirming accounts from Spanish chronicles regarding the sacrifice of children at lower elevation locations in the Andes.

Anfruns, Josep [161] see *Guerrero, Emma*

Angel, Julie (PAST Foundation and The Ohio State University), Annalies Corbin (PAST Foundation, executive director) and Sheli O Smith (PAST Foundation, director of operations)

[70] *Forensics for Kids: How CSI Fell From Grace.*

Forensics in the Classroom created a two-week class for 9th/10th graders, incorporating 15 stand-alone learning modules covering all aspects of forensic investigation; from cadaver dogs and fingerprinting to forensic archaeology recovery and expert testimony. The course structure of a short lecture followed by practical application, along with processing two mock crime scenes, produced evidence for a court case, including extensive paperwork. Students expected a high-speed CSI experience and left this survey course knowing how different real crime fighting could be; they even started questioning the veracity of CSI.

Angelbeck, Bill

[15] *Autonomy and alliances: A scalar approach to the organization of defense in Late Coast Salish prehistory*

During the Late Period of the Central Northwest Coast (1500 to 200 BP), a proliferation of warfare altered settlement distributions. Defensive refuges begin to proliferate throughout the region, however, the nature and scale of those defenses varied. In this paper, it is argued that the organization of Coast Salish defense reflects the anarchic nature of their political authority, with evidence for manifestations of local autonomy as well as the coordination of allied groups into defensive networks. This analysis integrates of archaeological, ethnographic, and ethnohistoric data to show how their defensive organization intensified to meet the nature of threats.

Annereau-Fulbert, Marie (Universite De Paris I)

[14] *Intermediate Units in Late Postclassic Maya Sites in the Highlands: an Assessment from Archaeology and Ethnohistory*

Postclassic sites in the Maya Highlands are specific due to their strong standardized configuration which illustrates the phenomenon of a "divided grouping" of entities neither equal nor really hierarchized. Each segment, clearly defined, forms a neighborhood. The repetition of the same structure types at different scales of settlement and a weak internal hierarchization in each neighborhood, both indicate a degree of emulation and cooperation between local social groups. These social and political dynamics remain difficult to assess and define, but the many Highlands documents enlighten these mechanisms.

Anselmi, Lisa (Buffalo State College)

[163] *The Martin II site: An Early Woodland Lithic Manufacturing Locality on the Niagara Frontier*

This paper presents the initial results of analysis of the over 4200 lithic artifacts, flakes and pieces of debitage recovered at the recent excavations at the Martin II site, a small Meadowood site found in Beaver Island State Park, Grand Island, New York. The initial results suggest that the site was a location of small-scale primary lithic tool production and retouch. This paper also presents the spatial analysis of the recovered lithic material and strives to link the lithic assemblage recovered at the site to similar assemblages in the Great Lakes watershed.

Antunes-Ferreira, Nathalie [215] see *Hillier, Maria L.*

Aoyama, Kazuo (Ibaraki University)

[257] *Political and Economic Power of Maya Lithic Artifacts: Two Case Studies of the Copan Region, Honduras, and the Aguateca Region, Guatemala*

Maya lithicists can provide some insights into intrinsically important and interesting aspects of political and economic systems by employing a regional approach. In this paper, the results of the analysis of 123,242 lithic artifacts from the Copan region, Honduras, and the Aguateca region, Guatemala, studied between 1986 and 2007, are summarized and discussed. The objective of this analysis was to elucidate socioeconomic and political implications through the regional studies of procurement, exchange and production of obsidian artifacts, the variability of artistic and craft production, chipped stone weapons and warfare, as well as royal ritual as theatrical performance.

Aponte, Delia

[98] *Mortuary Bundle 290 and the Paracas-Nasca transition on the Paracas Peninsula*

The period of transition between Paracas and Nasca on the Paracas Peninsula is represented by a cemetery that Julio C. Tello defined as Paracas Necropolis. Through the analysis of the wrapping process, the offerings and burial context of Bundle 290, deposited in this cemetery, we contribute to knowledge of the individuals buried there and their links to the stylistic traditions of Paracas and Nasca.

Arakawa, Fumiyasu (Washington State University)

[104] *The Localization Process in the Central Mesa Verde Region*

The localization process occurs when agents consciously attempt to diffuse the accumulation of social power by elites. Mesa Verde Puebloans experienced an ebb and flow of people within the region from A.D. 600 to the 1200s, and because of sociopolitical and environmental pressures, ultimately migrated to the Rio Grande. Mesa Verde Puebloans employed migration and resettlement as a mechanism to cope with these problems and successfully achieved the localization process. I use lithic data to show how Mesa Verde Puebloans coped with sociopolitical-environmental difficulties and engaged in the localization process during the six centuries prior to depopulation.

Aranyosi, E. Floyd

[11] *Evaluating explanations for the Irish chambered grave typology*

The typology of the Irish chambered graves might be explainable in terms of different functions for each of the Megalithic tombs, rather than the work of different peoples. I investigate the implications for the geographic distribution of combinations of discrete architectural features of the monuments using a revised classification of the monuments and the principles of phylogenetic systematics. Cultural transmission theory is employed to make predictions about the distribution of nested sets of similarities. The functionalist explanation is evaluated against the chambered graves of three contiguous counties in the southeast of Ireland.

Araóz Silva, Miriam [13] see *Covey, R Alan*

Araujo, Astolfo (University of São Paulo - Brazil)

[128] *Humans in Brazil during the Early Holocene: Contributions for a Larger Debate*
During the last decades, archaeological research in Brazil provided data that could be of interest to colleagues dealing with the first human occupations across the American continent. Lithic and faunal analysis, coupled with bioanthropological, paleoenvironmental and chronological data, point to a complex scenario that should be taken into consideration when discussing issues regarding the peopling of the Americas. In this poster we will provide an up-to-date account of recent findings, and their implications for a larger debate.

Arbuckle, Benjamin (Baylor University)

[296] *Palatial-pastoralist interaction in a Bronze Age center: The limits of state control at MBA Acemhoyuk, Turkey*

This paper focuses on the relationship between political power and the pastoral system at MBA Acemhoyuk, a major Bronze Age center located in central Anatolia. By examining the organization of systems of production, processing, and distribution of caprine resources at Acemhoyuk through time, this paper seeks to identify how the pastoral system responded to changing political conditions at the site and to characterize the degree of state control over the components of the pastoral system.

Archambeault, Marie (Texas Army National Guard)

[311] *Tribal Consultation: Positive Steps Towards Developing and Maintaining Working Relationships with Native American Tribes*

The Texas Military Forces (TXMF) has taken a proactive roll in developing and maintaining working relationships with the 8 Tribes with ancestral ties to land now used by the TXMF. The TXMF is working towards preserving these developing relationships by listening to and acting upon requests from individual Tribes. This presentation will discuss what has worked for the TXMF, what has not worked for the TXMF, and where we go from here.

Archer, David [288] Discussant**Archer, William (University of Cape Town) and David Braun (University of Cape Town)**

[29] *Variation in the Acheulean of Elandsfontein, South Africa: A morphometric approach*
Recent research on Acheulean technology has suggested a myriad of explanations for variation in artifact form. However, methodological advances suggest that previous methods of analysis do not capture the full spectrum of variation in artifact form. Here we combine geometric morphometrics with conventional approaches to isolate factors associated with variation in Acheulean assemblages. To this end we focus on Acheulean tools from the Middle Pleistocene site of Elandsfontein in South Africa. Results suggest that at least some of the three dimensional shape variation in Acheulean tools is linked to the combined affects of raw material variation and reduction intensity.

Ardren, Traci (University of Miami)

[77] *Ofrendas de infantes e identidad en la arquitectura maya del Clásico*

Ciertos infantes y niños pequeños son con frecuencia encontrados enterrados en grandes vasijas cerámicas dentro de rellenos arquitectónicos durante el período Clásico maya. Otros niños son encontrados enterrados como adultos en lugares de enterramiento normal rodeados por bienes funerarios comunes. Esta ponencia explorará la formación de la identidad relacionada con los niños y la infancia en la cultura maya del Clásico. Las razones para un uso selectivo de ciertos infantes y niños en ofrendas dedicatorias puede incluir cuestiones como el estatus como no-adultos/no-personas pero la investigación comparativa sugiere que se deben considerar aspectos como la corporalidad del poder sagrado y la autoridad. Se argumenta que las ofrendas infantiles reflejan la visión maya antigua de que la identidad en la infancia y de los infantes fue liminal y estuvo imbuida de una potencia supernatural que gradualmente se desvanece con la edad.

Arellano, Carmen (Museo Nacional de Arqueología, Antropología e Historia del Perú) and Ramiro Matos (Smithsonian/National Museum of the American Indian)

[13] *Rethinking Inka politics on demarcation: the case of the Wamani Pampu*

The study of Inka organization of space is based on data provided by Spanish sources. These sources, however, have their limitations. They responded to administrative needs of the Spanish crown and to fulfill a desire for exotic news about the New World. They were also selective, censoring specific data. To understand the conformation of the Wamani Pampu in the Central Highlands of Peru under Inka rule, an interdisciplinary (archaeology, ethnohistory and ethnography) approach brings new insights on Inka conceptions of territory, sacred space and time, and the practical use of geopolitical resources and political and military power to set its demarcation.

Arenas, Jesus [74] see Ruvalcaba, Jose Luis

Arendt, Beatrix (University of Virginia)

[235] *From an Inuit village into a Moravian mission*

The Inuit of Labrador were in intermittent contact with European whalers, fishermen, and traders since the 16th century. After the arrival of German Moravian missionaries in 1771, some Labrador Inuit moved to missions, converted to Christianity, and participated in a European market economy. To examine this transformation archaeologically, I compare excavated material from 17th-18th century Inuit sod houses to 18th-19th century Inuit sites at the Hopedale Moravian mission. Examining data from this early historic period provides information on social structures already in place, and serves as a foundation for models attempting to explain Inuit choices during the 19th century.

Arendt, Nicole

[89] *Pollen Analysis of Samples from Tumacacori National Historical Park*

Tumacacori was a Spanish Colonial mission in southeastern Arizona that was occupied in the eighteenth and nineteenth centuries. Recent archaeological investigations at Tumacacori National Historical Park have included taking multiple palynological samples from several locations, including a possible occupation surface and several areas related to agriculture, including the acequia, the orchard wall, and the interior of the orchard. These samples allow the study of agriculture, land use, and vegetation patterns in the Spanish Colonial period in this region, including the impacts of plant and animal introductions.

Arias, Pablo (Universidad de Cantabria)

[116] *Coast, Mountains and Territories: The exploitation of marine and terrestrial resources in NW Iberia during the Mesolithic and the Neolithic*

The coast of northern Spain is one of the classic regions for the study of European Mesolithic. Recent research has provided new data on the colonization of inland, mountain areas. The focus of this paper is to summarize the available information on the exploitation of marine and terrestrial resources by the Mesolithic and Neolithic populations of this region, both from traditional sources (Archaeozoology, Palaeobotany spatial analysis) and from new data, such as stable isotopes analysis. Diachronical and synchronical changes are discussed, and their implications for the definition of territorial behavior are also considered.

Arif, Johan (Villa Bukit Mas I/A2), Mark Schurr (Department of Anthropology, University of Notre Dame, USA) and Rubyanto Kapid (Department of Geology, Bandung Institute of Technology, Indonesia)

[94] *The remains of prehistoric settlement and human skeletons on the surroundings of Bandung city, Indonesia*

In a prehistoric time, Bandung city in west Java (Indonesia) still submerged under the water of Bandung lake. This lake occurred around 125,000 years bp because of the eruption of the Tangkuban Perahu volcano, and eventually was vanished since 25,000-16,000 years bp. The event of Bandung lake can be indicated by the existence of artifacts such as obsidian and megalithic culture. Furthermore, recently some human skeletons have been found from Pawon cave situated on the limestone hill westward of Bandung city. All of those finds are important clues in revealing the history of human settlement around

Bandung area.

Arkush, Elizabeth (University of Virginia)

[134] *Killing them softly, killing them loudly: Warfare and violent display in the Andes*
For archaeologists of non-literate societies, information about the cultural worldviews that inform violence comes disproportionately from iconography and other kinds of violent display, like public sacrifice and the displaying of trophies. This paper interrogates the relationship between violent display and the actual intensity of violence for past Andean populations. When were such displays common, and when was the "public transcript" about violence muted or even silent? Contrasting patterns of warfare and display between the Early and Late Intermediate Periods suggest messages about violence were strategically amplified or downplayed in specific social contexts that should themselves be critically examined.

Armitage, Ruth Ann [225] see Merrell, Carolynne

Armstrong, Douglas (Syracuse University)

[182] *Degrees of Freedom in the Caribbean: Archaeological explorations of transitions from slavery*
Abolition of slavery in the Caribbean followed a variable path. The complexity of differential colonial rule resulted in an ambiguous shift to "freedom". This paper examines archaeological findings and spatial analyses from a range of Caribbean contexts in the late 18th to late 19th century (with an emphasis on British, Danish, French, and Spanish settings). It is argued that emancipation resulted in "degrees of freedom" with many formerly enslaved laborers being caught up in a form of wage slavery. However, where persons of color gained control of land and self employment, significantly greater degrees of freedom were gained.

Armstrong-Fumero, Fernando (Smith College Anthropology)

[77] *Documentos Burocráticos Como Cultura Material, y Sus Interacciones con la Narrativa Oral y Memoria Colectiva*
En esta ponencia, uso materiales documentales de las primeras décadas del siglo XX, historia oral y observaciones etnográficas para explorar las relaciones entre los textos escritos y tradiciones de narrativa oral a través de las cuales personas en comunidades rurales del estado de Yucatán han articulado su identidad como ciudadanos del estado Mexicano. Mi uso de estudios etnográficos para entender el contexto social de algunos documentos en los archivos fue inspirada en gran parte por los estudios etnoarqueológicos. Como ejercicio teórico y metodológico, esta investigación abarca en una serie de temas que son fundamentales para entender la relación entre los textos físicos y formas de cultura intangibles.

Arnauld, Charlotte (CNRS), Boris Vanniere (CNRS), Dominique Michelet (CNRS), Eva Lemonnier (Projet Rio Bec) and Philippe Nondedeo (CNRS)

[14] *Houses, Emulation and Cooperation Among Social Groups at Río Bec*
Río Bec is not a «Maya site» with an epicenter and a periphery. It is better defined as a rural zone characterized by dispersed monumental groups, surrounded by associated modest groups, all residential in function. These associations are explained by combining several models (social, agrarian, architectural), concerning the groups most intensively excavated by the Río Bec project (2002-2008). Their dynamics from AD 450 to 950 show differing degrees of emulation against cooperation, leading to the development of monumental architecture but hindering the formation of dense neighborhoods dominated by true elites.

[14] Co-Organizer

Arnauld, Charlotte [257] see Michelet, Dominique

Arndt, Ursula (SFU Archaeology Dep.), Alan McMillan (Simon Fraser University), Dongya Yang (Simon Fraser University) and Ian McKechnie (Simon Fraser University)

[256] *Archaeology, Ancient Whale DNA and NE Pacific Humpback Whale Conservation*

Current humpback whale populations are relicts, depleted by commercial overhunting. Using ancient DNA, archaeological samples can be used to build a baseline for pre-overhunted whale populations –data essential for developing proper conservation measures. Over 100 humpback whale bones were processed from the archaeological site Ts'ishaa, Vancouver Island. The analysis of ancient mtDNA D-loop segments revealed haplotypes which are absent in modern NE-Pacific humpback populations. While this study shows the utility of ancient DNA to conservation biology, our attempt to include hunting strategies and possible conservation efforts of early inhabitants maximizes the data exploitation for both archaeology and conservation biology.

[223] *Co-Organizer*

Arnold, Elizabeth and Robert Creaser (University of Alberta)

[296] *Looking at animal mobility in Early Iron Age South Africa through strontium isotope analyses*

This research examines the mobility of domestic herds through strontium isotope analysis in the Early Iron Age (EIA) within the Thukela River Valley of South Africa. Two cattle were identified as social and/or economic exchanges from another region and suggests wide reaching political and social connections. The analysis provides a critique of the Central Cattle Pattern, the dominant model for settlement and social organization of the period. This investigation has failed to provide strong evidence for this central position of cattle in the earliest phases of the EIA and rather indicate the gradual development of this element throughout the EIA.

Arnold, Jeanne (Dept of Anthropology) and Anthony Graesch (University of California, Los Angeles)

[174] *A Case Study in Modern Material Culture: Measures of Wealth and Identity Expression*

Archaeologists often assume that abundance and richness in assemblages of material culture recovered from household contexts are reasonable indicators of household status or wealth. This study uses a large modern material culture dataset from California to assess this proposition. Employing systematic catalogs of household goods extracted from an archive of 21,000 photographs, we examine measures of object ubiquity, richness, and diversity for 32 households and explore their utility in indexing wealth and identity expression. Ubiquitous object classes such as photos, books, electronics, media, and collectibles may measure families' consumerism and zeal to express identity rather than wealth per se.

Arnold, Jeanne [52] see Graesch, Anthony P.

Arnold, Shannon (University of Utah)

[214] *Viewshed analysis of stored resources in Range Creek Canyon, central Utah*

In Range Creek Canyon, storage sites are located in highly visible but difficult to access locations, or easily accessible but well hidden locations. This pattern may represent two defensive strategies, one in which storage facilities can be easily watched and another in which they are hidden and left unattended. Using viewshed analysis, the visibility of storage sites, construction type, and location are compared. DEMs and georeferenced aerial photographs allow an accurate reconstruction of visibility from each storage site. Patterning between the location and construction type of storage sites and their visibility from other sites throughout the canyon is identified.

[214] *see Metcalfe, Duncan*

Arnold, III, Phillip J. [279] see Thompson, Victor D.

Arpin, Trina (Boston University)

[259] *Potential of micromorphology for the study of earthwork mounds*

Geoarchaeology has long been an integral part of American archaeology.

Micromorphology, widely used in a wide range of Old World sites, has been less frequently employed, although that situation is rapidly changing. In particular, studies at mound sites in the central U.S. have shed light on the selection of particular soil building materials and

the construction techniques, including basket loading. These studies have also indicated that construction techniques can vary between different mounds at the same site or even during different building phases at the same mound.

Arrell, Katherine (University of Leeds, UK) and Joyce C. White (University of Pennsylvania)

[141] *The Middle Mekong Basin as a Human Landscape in Prehistory: Insights from New Research*

Although the Mekong is one of the world's great rivers, its role in human prehistory is only beginning to be studied. Recent archaeological research in the middle reaches of the Mekong has revealed human occupation and use in the Luang Prabang area in northern Laos throughout the Holocene. Stone age hunter-gatherers, neolithic and metal age agriculturalists, and historic specialized craft producers have all chosen to exploit this landscape, which is characterized by tributaries cutting through karstic formations. This paper analyses GIS data from a 2005 exploratory site survey in Luang Prabang Province for evidence of variation in human/land interaction over the past 10,000 years.

Arroyo-Cabral, Joaquin (Instituto Nacional De Antropologia E Historia), Eileen Johnson (Museum of Texas Tech University), Luis Morett A. (Museo Nacional de Agricultura, Universidad Chapingo) and Oscar J. Polaco (Instituto Nacional de Antropologia e Historia, Mexico)

[32] *Late Pleistocene Mexican Mammal Faunas*

During the late Pleistocene, there were changing landscapes due to repeated events of glaciation-deglaciation. Those conditions allowed the presence of mammal megaherbivores and megacarnivores, which strongly impacted the landscape; in grasslands mammoths coexisted with camels, bison, horses, pronghorns, saber-toothed tigers, lions, short-faced bears, and dire wolf. Similarly, forested areas were inhabited by mastodons, gomphotheres, ground sloths, deers, spectacled bear, tapir, jaguar, and mountain lion. Interactions between extinct animals and humans have been found, mostly involving mammoths, but in such a case a role as scavenger played by humans could be better proposed than active hunting.

[32] *Chair*

Arroyo-Cabral, Joaquin [32] see Waters, Michael R.

Ash, Richard [50] see Marquardt, Amy E

Ashley, Ceri (UCL Institute of Archaeology)

[6] *Mobility and Socio-Economic Organisation in Early Kenyan Hunter-Gatherer Communities*

This paper will present recent research from Western Kenya on very early ceramic using Hunter-Gatherer-Fisher communities who occupied lacustrine and riverine areas from c.6,400BC. Presenting evidence from a range of recently excavated sites, this paper will focus on the distinctive and ornate Kansyore ceramics, exploring how ceramic production, form, decoration and distribution can augment discussion of socio-economic organisation, particularly patterns of mobility and delayed return economics. This case study presents an important insight into the (poorly known) dynamics of local Kansyore using communities, as well as contributing to wider, global discussions of early ceramic producing societies.

Ashley, Gail [149] see Harris, J W K

Ashmore, Wendy (University of California, Riverside)

[229] *Choosing Sides*

In studying such socially stratified societies as the Classic Maya, longstanding emphases on large-scale institutional frameworks and directives from elites find complement from—if not replacement by—consideration of subject commoners. Where commoners' lives, experiences, and will had once been treated as inaccessible topics for study, now their everyday practices and political strategies gain gratifyingly increasing and long overdue scholarly attention. People in the middle ranks of society, however, are alternately subjects

and decision makers. This presentation considers intriguing political choices made by leaders at Morjá, amid contentions between flanking, nearby Maya dynastic capitals at Quirigua and Copan.

[302] *Discussant*

Asp, Chaudaquock [260] see Welch, John Robert

Asp, Vera

[18] *Tahltan and Stikine River Drainage Archaeology*

Chaudaquock, Tahltan, Klogadena Wolf. As did our Ancestors, Tahltans today declare sovereignty over our Territory of the Stikine River drainage in northwestern British Columbia. Our lands and our people are currently experiencing a modern-day gold rush with multiple mega proposed resource extraction projects. As a citizen of these lands and an archaeologist and a member of Tahltan Heritage Resource Environmental Assessment Team (THREAT) I strive to make a contribution by insisting that land use decisions are made with elevated archaeological baseline data standards when addressing archaeological impact assessments within our Territory.

[Asp, Vera [260] see Welch, John Robert

Atalay, Sonya (Indiana University)

[1] *Community Based Participatory Research: Methods and Applications for Archaeological Collaboration*

Collaboration has many forms and can be carried out using a variety of methods. Community Based Participatory Research (CBPR) is one form of collaborative research that has been effectively utilized in a range of other disciplines; producing results that serve both researchers and communities. Relying on data from recent fieldwork with both Native communities and non-descendent local populations, this paper examines CBPR approaches and the ways this specific collaborative methodology can most effectively be applied to archaeological research. The research presented has implications for research design, approaches to funding, data collection, and the interpretation and dissemination of results.

[1] *Presenter [271] Discussant*

Atici, Levent (University of Nevada, Las Vegas)

[69] *Specialization, Intensification, and Diversification in Animal Exploitation Strategies during the Terminal Pleistocene in the Mediterranean Turkey*

The results of a comprehensive zooarchaeological analysis on seven archaeofaunal assemblages from Karain B and Okuzini caves help us to develop a high-resolution picture of Terminal Pleistocene animal exploitation patterns (20,000-13,500 calibrated BP) in the Mediterranean Turkey. Specialization on the exploitation of high-ranked ungulates throughout the Epipaleolithic; intensive procurement and exhaustive processing of caprine carcasses to exploit labor-expensive bone marrow and bone grease; and resource diversification around 14,000 years ago have been documented. The broad spectrum exploitation, however, occurred in the context of climate amelioration and thus of apparent resource availability and abundance, rather than environmental deterioration or resource depletion.

[Atici, Levent [69] Co-Organizer [69] Chair

Atkinson, Lesley-Gail (Department of Anthropology, University of Florida) and William Keegan (Florida Museum of Natural History)

[196] *Beyond Puerto Rico: The meaning of Taino in the Greater Antilles and The Bahamas*

The identification of the "Taino" is based on the work of Irving Rouse. Rouse maintained a unilineal development sequence for the culture history of the Caribbean, where the Taino evolved from South American colonists, the Saladooid. This interpretation reflects a disconnection between ethnohistory and archaeology. Majority of the Taino ethnohistoric descriptions come from Hispaniola and Cuba, while the archaeological research is mostly from Puerto Rico. Puerto Rican archaeology has revealed a substantial difference from that of Hispaniola, Cuba, Jamaica, and the Bahamas. Our contention is that ethnohistoric descriptions should be restricted to the archeology of the region in which they were made,

and that Rouse's Taino Culture must be deconstructed. We do so by using archaeological examples from Haiti, Jamaica and the Bahamas.

Audet, Carolyn (Vanderbilt University)

[97] *Could the Maya Buy Political Authority?*

Political authority was established by the manipulation of social, religious, and cultural beliefs. Rulers claimed their exulted status through blood relationships with important ancestors, their ability to conduct successful rituals, and their gregarious personalities. In the absence of glyphic texts, elites are identified archaeologically by their grandiose tombs, elaborate palaces, and large temples. Was it possible for the wealthy to acquire objects of status given their economic standing? Could a wealthy individual "buy" political power during the Classic period? Excavations in the Belize Valley reveal new evidence to support this possibility.

Audouze, Francoise (CNRS- France)

[159] *Apprenticeship in an area rich in flint: The Paris Basin during the Magdalenian (France)*

The open air sites occupied by reindeer and horse hunters during the late Magdalenian of the Paris Basin in France are located in an area rich in good quality flint that was mostly collected on the rivers banks and knapped in the camps flint workshops. The strong norms that organize the late Magdalenian knapping operation sequences as much as the abundance of the raw material allow to identify the transmission of knapping skill with several levels of competence achieved by learners from beginners to trained apprentices. These different levels can be related to different age classes and groups structure.

Aura, J. Emili (Dept. de Prehistòria i Arqueologia. Universitat de València), Jesús Jordá Pardo (Laboratorio de Estudios Paleolíticos, UNED, Madrid), Juan V. Morales

(Universitat de València) and Manuel Pérez Ripoll (Universitat de València)

[69] *Prehistoric Economy of the Spanish Mediterranean region (ca. 20,000 – 10,000 ky BP). Transitions in western 'finis terrae'*

In the Spanish Mediterranean region global climatic change across the Pleistocene/Holocene transition had a direct influence on sea level but a less clear impact on the substitution of megafauna. Between the Later Paleolithic and the Epipaleolithic-Mesolithic there was a shift toward a broad spectrum/intensified economy. This contribution analyses regional faunal assemblages from a zooarchaeological and palaeoeconomical perspective to examine the long-term socioecological history of cultural change. It compares two very different archaeological sites: Coves de Santa Maira (Valencia) ca. 15,000-7,500BP~ located in a mid-mountain area and Nerja Cave (Andalusia) ca. 25,000-10,000 BP~ on the present coastline.

Ausel, Erica

[267] *Analysis of lithic raw material and artifact types at Chau Hiix*

This paper describes an analysis of the distribution of lithic raw material and artifact types at the Maya site of Chau Hiix, Belize. Lithics from two deposits, one on the main plaza and the other from a small residential platform were studied. The analysis focuses on the distribution of four types of raw material: local chalcedony, a fine-grained local chert, Colha type chert, and obsidian as well as the types of tools made from each material. The investigation of raw materials and tool types provides information on one aspect of the internal dynamics at Chau Hiix.

Austerman, Gini (LSA Associates, Inc.) and Kevin Bash (Norco Regional Conservancy)

[212] *When a National Register Historic District Falls Through the Cracks: Rescuing the Lake Norconian*

Locked and hidden behind security gates and razor wire is a once-majestic 1928 hot springs resort. During WWII, the Nay took control of the property, changing the resort to a hospital and rehabilitation center for the war's wounded. After 1960, a portion of the property became a State prison. Now owned by Federal and State agencies, this once vibrant retreat of the rich and famous is threatened by downsizing and neglect. This poster

chronicles the grassroots efforts of a small group of local residents to save the 19 buildings from their perilous fate.

Authier, Martin (Anthropology Department, Southern Methodist University) and Manuel Perales Munguía (PIAF)

[131] *The application of geospatial analysis software in the petrographic examination of ceramics from two Initial Period/Early Horizon monuments at Huaricanga, Fortaleza Valley, Peru*

As part of its 2006-2007 high-precision survey of the Fortaleza Valley, Peru, the Proyecto de Investigación Arqueológica Fortaleza collected surface ceramics from monumental architecture at two Initial Period/Early Horizon components of the Huaricanga Complex. A sample of 30 undecorated body sherds was selected and thin-sectioned, and the nature, size, and proportion of aplastics within the clay matrix were quantified using ArcGIS Spatial Analyst. This analytical technique has the advantage of providing a quantifiable method for examining aplastics in the clay matrix, aiding in clarifying the temporal variability of a mixed surface collection and suggesting possible raw material sources.

Aveni, Anthony (Colgate University)

[79] *How Did the Maya See and Interpret Sky Phenomena?*

Creating social order through the perceived template of cosmic order is common in cultures throughout the world. Our safest assumption here is that the way the Maya interpreted what we take to be universally observable phenomena (e.g., the first appearance of morning star, the phases of the moon) is different from our own. I believe this is a factor often neglected in the study of Maya creation stories, largely because of our own lack of familiarity with the sky. This presentation will illustrate how such information illuminated the Maya understanding of space, time, and the process of creation.

Awe, Jaime (Institute of Archaeology), James Garber (Texas State University at San Marcos) and Paul Healy (Trent University, Ontario, Canada)

[181] *Contextualizing Early Maya Prehistory in the Belize Valley*

Prior to the 1990's evidence for prehistoric human activity predating the Middle Formative period (800-300 BC) was either absent or inconclusive in central Belize. This situation was altered considerably by archaeological research in the last two decades. These recent investigations recorded secure evidence for Preceramic populations, and for the establishment of permanent settlements in the Belize Valley by 1000 B.C. In an effort to provide an accurate presentation of this data this paper describes the spatial and historical context of our research, and highlights problems and challenges in our current understanding of early Maya development in western Belize.

[181] *Co-Organizer [280] Discussant*

Awe, Jaime [181] see Garber, James F.; [181] see Brown, M. Kathryn; [102] see Guerra, Rafael A.; [181] see Morgan, Molly; [181] see Sullivan, Lauren A

Baadsgaard, Aubrey (University of Pennsylvania), Linda Cummings (Paleo Research Institute) and Michael Chazen (University of Toronto)

[115] *Discerning Epipaleolithic Subsistence Shifts at Wadi Mataha, Jordan*

Analysis of subsistence data from Wadi Mataha reveals new evidence for subsistence shifts from the Geometric Kebaran to the Early and Late Natufian periods of southern Jordan. Pollen from Geometric Kebaran and Early Natufian levels and phytoliths from Late Natufian mortars suggest a sustained exploitation of wild cereal grasses through time. Similarities in plant exploitation contrast with shifts in animal exploitation patterns through time. Reasons for perceived differences in floral and faunal evidence are explored as are their implications for understanding environmental shifts and cultural and demographic factors influencing settlement and subsistence decisions.

Bachir Bacha, Aicha (EHESS)

[98] *Paracas en la órbita de la influencia de Cahuachi*

Que sabemos del célebre sitio de Cahuachi durante este proceso llamado comúnmente

transición Paracas-Nazca? Del examen de los contextos arqueológicos se desprende unos datos relativos a su función, su uso y sus ocupantes en este periodo. El objetivo de mi ponencia no es elaborar un inventario estilístico de la arquitectura y la cerámica descubierta en Cahuachi, sino más bien comprender el rol y el prestigio religioso y político que detentaba Cahuachi alrededor del 200-100 a. C., captando dentro de su órbita de interacción a las poblaciones de Paracas. Este aspecto pone en duda una ocupación Paracas en Cahuachi.

Bacon-Schulte, Weston [243] see *Peacock, Evan*

Badenhorst, Shaw [140] see *Driver, Jonathan; [89] see Merewether, Jamie*

Baglioni, Piero [74] see *Falcon, Tatiana*

Bagwell, Elizabeth (Desert Archaeology, Inc)

[185] *Medio Period Colonization of the Northern Sierra Madre Occidental of Northwest Mexico*

This paper presents the results of a study of the organization of architectural production at two Medio Period (A.D. 1200 to 1450) coursed-adobe cliff dwellings in the Northern Sierra (Casas Grandes) region of northeastern Sonora, Mexico. This study takes a technological approach to architecture, emphasizing the labor organization of those who built the structure rather than those who used the structure. The results of this analysis demonstrate that these structures were built by an entire community as part of a planned migration. The standardized way in which this migration was organized, implies planned population movements on a regional scale.

[185] Co-Organizer

Bailey, Catherine

[114] *From Spanish outposts to Chumash villages: tracing the movement of locally produced earthenware along the central coast from 1782-1820*

Unglazed, low-fired earthenware is found throughout the colonial Americas in missionary, military, and civilian settlements. Used daily by colonists and indigenous laborers in Spanish California, these ceramics are also found in Chumash villages along the central coast. In this paper I will explain how petrographic sourcing of California mission, presidio, and Chumash village assemblages can reconstruct the movement of these locally produced earthenwares across the colonial landscape near Santa Barbara. This study refines previous analyses of site-specific acculturation to address the regional interaction and exchange networks supporting the first generation of families straddling colonial and indigenous economies.

Bailey, David G. [214] see *Fischetti, Jordan P.*

Bair, Daniel (Brigham Young University) and Richard Terry (Brigham Young University)

[109] *The Dirt on Ancient Maya Marketplace Activities II*

Ancient markets are difficult to identify as most utilitarian items and consumables were perishable. Our objective was to use geochemical analyses of extractable phosphorus and metallic residues in soils to distinguish the unique geochemical patterns of market plazas from other types of plazas within the Maya area of Central America. Geochemical techniques in conjunction with locational and archaeological data have provided lines of evidence for Marketplace activities.

Baird, Melissa (University of Oregon)

[300] *The Politics of Place: Heritage Discourse and the Epistemologies of Cultural Landscapes*

The practice and management of cultural heritage by archaeologists, museums, heritage practitioners, and other experts has implications for Indigenous groups and local communities who may challenge how their heritage is perceived, classified, and represented. This paper examines the sociopolitical contexts of heritage practices by

examining the discourses related to World Heritage cultural landscape designations used by international heritage bodies (e.g., UNESCO and ICOMOS). What happens when western models, primarily developed and borrowed from the natural and social sciences, are used to interpret non-Western landscapes?

Baitzel, Sarah (9450 Gilman Drive, UCSD#922440), Barbara Carbajal (Pontificia Universidad Católica del Perú) and Paul Goldstein (University of California, San Diego)

[88] *Tiwanaku Death and Mourning at Rio Muerto, Moquegua, Peru*
The 100% excavation of a Tiwanaku cemetery at the Rio Muerto M70B site offers insights into funerary practice and health in the region. The astounding preservation at the site provides unique evidence of tomb and surface offerings illustrating mortuary practices of the Omo-style Tiwanaku colonists. Aymara ethnography and ethnohistory suggest a tradition of prolonged mourning around the time of interment. This is the first time that such behavior is observable in the archaeological record. Studies of the population's demography and pathologies allow us better to understand the causes of death and their relation to changing mortuary treatment.

Baker, Leslie [145] see Brownlee, Kevin

Baktash, Yasmine [302] see Meierhoff, James W.; [302] see Hetrick, Chris

Balasse, Marie (CNRS)

[35] *Evaluating the range of variation of the "local" oxygen isotope signature at the intra-annual, inter-annual and hydrographical scales*

Investigation of mobility through oxygen stable isotope measurements in skeleton remains either lies on the identification a "non-local" signal, or on the observation of intra-individual variability between skeleton parts formed at different moments of life. In both cases, the basic requirement is to define the range of variation of the local signal, which can possibly vary within the year, between years, and between local water sources of diverse kinds. With a few examples on modern and archaeological animal populations I would like to show that the range of variation of the local signal can be high.

Baldwin, Lisa

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

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

Ballenger, Jesse (University of Arizona) and Vance T. Holliday (University of Arizona)

[32] *Naco, Arizona: Renewed Paleontological and Archaeological Prospecting on the U.S.-Mexico Border*

The Naco mammoth was the first of several proboscideans documented within a brief stretch of Greenbush Draw on the US-Mexico border in southeastern Arizona. Since 1951, local residents have reported three mammoth localities that contained projectile points. Archaeological surveys conducted in 2004 revealed five additional paleontological localities in the draw. This paper describes a program of continued survey in the area and limited testing at these new locations, as well as recent stratigraphic and paleoenvironmental information relevant to Late Pleistocene-Early Holocene archaeology in the borderlands.

Ballenger, Jesse [304] see Camp, Beth A.; [304] see Hall, John D.; [10] see Zedeno, Maria N.; [10] see Reitze, William Thomas; [10] see Murray, John R.

Balme, Jane [270] see Veth, Peter Marius

Balzotti, Chris (Brigham Young University) and Richard Terry (Brigham Young University)

[109] *Ancient Maize Agriculture and Unique Soil Resources in the Rio Usumacinta Valley near La Technica, Guatemala*

Soils from the ancient Maya site of La Technica, Guatemala were physically and chemically characterized. Soil types were described taxonomically. Stable carbon isotope analysis of the humin fraction of the soil organic matter was conducted to search for evidence of ancient maize agriculture. Profiles were taken on the flood plain to investigate if seasonal flooding affects the isotopic signature. Profiles were also taken from unique modern agricultural areas supporting ten plus years of continuous maize agriculture without fertilization. Analyses of these flood plain soils improve our understanding of ancient Maya agricultural practices.

Bambrick, Jillian, Priscilla Renouf (Memorial University) and Trevor Bell (Memorial University)

[250] *Dorset Paleoeskimo Sealskin Processing in Port au Choix, Northwestern Newfoundland: A Paleoenvironmental Approach*

Although the environmental impact of modern human populations has been acknowledged, the degree to which precontact hunter-gatherers have affected the environment is not established. Traditional activities, such as sealskin processing, utilize many facets of the environment, and should therefore leave a local environmental signature. On the Northern Peninsula of Newfoundland Dorset Paleoeskimos engaged in seal hunting activities for nearly a thousand years, from 1900 to 1200 Cal BP. We propose that sealskin processing was also taking place at this location. By examining environmental proxies, as well as stable isotope values, the environmental impact of skin processing can be quantified.

Bamforth, Douglas (University of Colorado)

[53] *When is a core, and how would we know?*

Understanding how ancient societies organized the ways they produced stone tools requires that we accurately identify stone artifacts chosen for some kind of use and the trajectory of manufacture that produced these artifacts. This paper considers this problem, using examples from the Paleoindian record on the Plains. It particularly focuses on two issues: first, the links between descriptions of individual stone tools and larger generalizations about overall patterns of manufacture and, second, the potential effects on such generalizations of the documented ability of natural taphonomic processes to mimic the processes of human use and retouch.

Banahan, Joan [243] see Patton, A. Katherine B.

Bandy, Matthew (SWCA Environmental Consultants)

[244] *The Taraco Peninsula Polity: An Archaeological History*

The Taraco Peninsula Polity emerged from a system of competing autonomous villages at the beginning of the Late Formative 1 period (ca. 200 B.C.E.). Its formation and borders have been inferred from regional demographic processes. Its first capital was the site of Kala Uyuni. Around C.E. 200 the capital shifted to the three neighboring sites of the Santa Rosa Group and an outflow of population to Tiwanaku began. Between C.E. 300-500 the Taraco Peninsula became a heartland province of the newly-emerging Tiwanaku state. The developmental trajectory and external relations of the Taraco Peninsula Polity were crucial elements of the historical conjuncture that produced Tiwanaku state formation.

Banning, Edward (University of Toronto)

[161] *So Fair a House: Were there Temples in the Pre-Pottery Neolithic of the Near East?*

Since archaeologists first identified the Pre-Pottery Neolithic in Southwest Asia, they have interpreted some buildings as shrines, rather than domestic structures. Although these buildings may indeed have been the focus of some rituals, most of their archaeological interpreters have ethnocentrically assumed that the builders and users of these buildings shared their Western distinction between sacred and profane, and overlook the alternative that PPN cosmology infused everyday life, including domestic buildings and spaces, with

meaning and spirituality. Review of ethnographic studies, as well as archaeological evidence, suggests that this alternative is a more plausible interpretation of many PPN ritual features.

[86] see Gregg, Michael W.

Barba, Luis [251] see Brackett, Claudia L.

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

[16] *Who Owns Whom? Inalienable Possessions and Community Identities in the Lower Rio Verde Valley, Oaxaca*

This paper will examine the role of caches, burials, and mortuary objects as inalienable possessions in the lower Río Verde valley of Pacific Coastal Oaxaca, Mexico. Kept out of circulation by their burial in socially meaningful places on the landscape, earth offerings were integral to the creation and maintenance of local community identities during the Terminal Formative Period (150 B.C.E. – C.E. 250). We argue that earth offerings were a means of creating relationships between groups of people and important places that deemphasized inequality and reiterated a place-based identity that encompassed individuals of varying social status.

Barberena, Ramiro (CONICET) and Luis Borrero (CONICET-DIPA)

[101] *Hunter-gatherer specialization on marginal areas from southern South America?*

Patagonia is an extended dry and cold territory located on the southern extreme of South America, where there are at least two layers of marginality. At the supra-regional scale of Patagonia as a whole, this is an ecologically marginal setting where alternative food sources are few, and there is a focus on the use of guanaco (*Lama guanicoe*). On a smaller scale, many regions within Patagonia can be considered as geographically marginal (eastern Strait of Magellan, forests near the Andes). The latter areas were discontinuously used throughout the Holocene, and except for a complementary role for marine mammals do not display indications of specialization of any kind.

Barberena, Ramiro [118] see Charlin, Judith E.

Barbosa, Paula (Museu de Arqueologia e Etnologia-USP)

[292] *Zooarchaeological analysis of Jabuticabeira II: the dark zone*

At approximately 1900 BP a remarkable and sudden change in the layer composition of Jabuticabeira II shellmound happened. The layers, previously mainly composed of shellfish valves become practically devoid of shells, presence of dirt increased and the color darkened. The phenomenon occurs at other sites in the region during the same period suggesting a broad change in site patterns. This paper will present faunal data and discuss the formation processes involved in the development of this dark bed at Jabuticabeira II site and investigate the causes of such changes.

[292] Co-Organizer

Barker, Alex (University of Missouri) [195] Co-Organizer

Barker, Andrew (University of North Texas), Barney Venables (University of North Texas), Jonathan Till (Crow Canyon Archaeological Center), Ransley Welch (University of North Texas) and Steve Wolverton (University of North Texas)

[90] *An Assessment of Mesa Merde Mug Function Through Lipid Residue Analysis*

The Pueblo III period of the Mesa Verde region is characterized by several distinctive artifact types. Perhaps the best known artifact type is the “mug,” a pottery form of unknown function. In order to address the lack of knowledge regarding these enigmatic vessels, we used soxhlet extraction and gas chromatography-mass spectrometry to conduct lipid analysis on a sample of mug sherds from Albert Porter Pueblo, a great house site in southwest Colorado, with the goal of determining whether the sample mugs were used for the purpose of serving or storing foods.

Barnard, Hans (Cotsen Institute of Archaeology at UCLA)

[157] *Archaeological evidence for rain in the now hyperarid Pampa Tamarugal*

The area southwest of Tarapaca Valley, in the Pampa Tamarugal, at present receives very little rainfall. An archaeological survey of the area in 2006 and 2007 revealed a man-made canal with a preserved length of more than 6 km. This construction appeared to have been intended to divert runoff water toward a system of agricultural fields. Pottery finds systematically dated to the Charcoya Phase, 600-900 CE, indicating that the area must have been less arid in ancient times.

Barnes, Edwin [253] see *Folan, William J.*

Barnes, Gina (University of Durham) [226] *Discussant*

Barnes, Ian [223] see *Shapiro, Beth*

Barnes, Zonna (University of Colorado Boulder)

[4] *Social Identity and Ornamentation in the Ancestral Puebloan Southwest*

Items of personal adornment/ornamentation were widely used in the prehistoric Ancestral Puebloan Southwest. Previous research has focused on the economic aspects of their circulation, the presence of ornaments as indicators of social status, materials used to manufacture ornaments, and descriptive and chronological studies. However, little is known regarding how ornaments signaled social identity. This poster will address how ornaments were used to signal social identity, especially age and gender related social categories, as well as social group boundaries through time.

Barney, Marie (St'át'imc Nation (T'it'q'et)) and Michael Klassen (Simon Fraser University)

[18] *From Road Blocks to Boardrooms: The St'át'imc, Archaeology, and Sovereignty*

St'át'imc history is written upon the land. In the past, archaeologists were considered the experts on St'át'imc history, but there is more to heritage and culture than what can be dug from the ground. In 1997 a confrontation over a disputed archaeological assessment forced industry and government to the table, and led to greater St'át'imc control over the heritage assessment process. The St'át'imc process ensures that local knowledge is incorporated and a greater range of heritage is protected. Although issues with capacity, governance and recognition of title remain, the St'át'imc Nation is demanding full sovereignty over cultural heritage stewardship.

Barrera, James [47] see *Houk, Brett A.*

Barrett, Jason (Texas A&M University)

[267] *Maya lithic craft economies in the eastern Petén*

Stone quarrying and tool production have been recorded at several Maya sites in upper northwestern Belize. Prolific raw material outcrops throughout this region enabled intensive stone tool manufacture in support of an export-oriented economy. The utility of various production models are assessed against workshop data to better understand the nature of resource access and regional economic processes. Data suggests that political elites administered production without attached specialization and without control over technological processes. Critical resource control is evaluated as a finance mechanism used in support of local political economies.

Barrientos, Catalina [138] see *Lind, Michael*

Barrientos, Gustavo (Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata) and W. Bruce Masse (Cultural Resources Team & Environmental Compliance Generalist, Los Alamos Nation)

[57] *Mid-Holocene Asteroid Airburst/Impacts (ca. 6-4 14C ky BP) in Central and Northeastern Argentina: Exploring Probable Effects on Human Population*

From ca. 7 to 4 14C ky BP gaps in local and regional sequences of radiocarbon dates are

frequent in central Argentina. Previous research on this topic has interpreted this situation as a result of both, imperfect sampling and demographic and/or organizational responses of human populations to long-term climatic changes occurred during the mid-Holocene. The aim of this presentation is to explore the range of environmental and population perturbations potentially caused by two meteorite airburst/impact events recorded between ca. 6-4 14C ky BP -Río Cuarto and Campo del Cielo, respectively—and to assess their likely contribution to the whole picture.

Barrientos, Gustavo [118] see Belardi, Juan Bautista

Barriónuevo Alba, Monika

[312] *Construction and Functional Pattern in the Residential Terraces of Zone 1*, Excavations have been extremely important in presenting a complete picture of the residential architecture at K4 that reflects a logic and intentionality in construction. Although there is no monumental architecture as in other sites of the Late Archaic in the Andean area, we can still identify the time and effort invested in the elaboration of rustic floors on foundations of carefully selected fill. The time involved in the elaboration and construction of these floors, as well as their permanent maintenance evidenced by successive cleaning and remodeling, addresses the questions of sedentism and the specific function of these terraces.

[263] *Discussant*

Barrios, Edy (Universidad De San Carlos), Arthur Demarest (Vanderbilt University), Brent Woodfill (Vanderbilt University), Marc Wolf (Cancuen Archaeological Project) and Matt O'Mansky (Ohio State Youngstown)

[187] *The Classic Maya Highland Lowland Frontier: Shifting Patterns of Settlement, Exchange, and Conflict*

Ongoing researches in the Petén/Verapaz region are beginning investigations in an unexplored area of over 14,000 square kilometers that defines the interface and the transition from the lowland to the highland Maya worlds (Seibal, Petén to Cobán, Alta Verapaz). New sites, new historical patterns, and new ceramic spheres and material assemblages have been and are now being discovered. The initial results of reconnaissance and excavations there, together with historical evidence, show dramatic changes over time in the history and the very nature of highland/lowland interaction. Long term research designs will address culture history and theoretical controversies in this zone.

Bartelink, Eric (California State University, Chico), Cassady Yoder (Department of Sociology and Anthropology, Radford University), Ethan Grossman (Department of Geology and Geophysics, Texas A&M University) and Thomas Boutton (Department of Ecosystem Science and Management, Texas A&M University)

[202] *Dietary Variation in Mainland and Coastal California: Stable Isotopic Evidence from Six Late Holocene Sites*

In this paper, we explore regional and temporal variation in ancient human diets in the mainland and coast of central California (circa 2450-2000 BP). The study sample includes three sites from the Tomales and Drake's Bay area of the coast, and three inland sites from the interior. Stable carbon and nitrogen isotope analysis is used to examine the contribution of marine and terrestrial resource consumption to the diet. The data show that diets from the central coast were focused almost entirely on high trophic level marine protein, while in the interior, diets emphasized terrestrial resources.

Bartelink, Eric [202] see Beasley, Melanie M.; [7] see Yoder, Cassady J.

Barton, Bax [128] see Lubinski, Patrick

Barton, C. Michael (Arizona State University) and Julien Riel-Salvatore (McGill University)

[154] *A lithic perspective on ecological dynamics in the Upper Pleistocene of western Eurasia*

Arthur Jelinek played a key role in catalyzing a new middle range theory for lithic technology that transformed the study of stone artifact assemblages. As Jelinek repeatedly emphasized, it is critical to understand the behavioral meaning of lithic variability. Building on this foundation, we identified a set of simple assemblages-level measures that seem to characterize the inherent nature of forager lithic technology and provide robust proxy measures of landuse practices. Applying these measures to assemblages across western Eurasia offers new insights into the most important dimensions of Upper Pleistocene human ecological dynamics in response to environmental change.

Barton, C. Michael [224] see *Hill, Brett*; [153] see *Miller, Alexandra E.*; [137] see *Ullah, Isaac I.*

Barton, Loukas (U.C. Davis), Fahu Chen (Lanzhou University), Hui Wang (Gansu Province Institute of Archaeology and Cultural Relics), Robert L. Bettinger (University of California, Davis) and Seth D. Newsome (The Geophysical Laboratory of The Carnegie Institution of Washington)

[22] *An Isotopic Evaluation of Early Agriculture at Dadiwan*

The earliest stages of domestication are difficult to establish from archaeological remains. However, where early domesticates (e.g. C4 millets) are isotopically distinct from wild (C3) forage, chemical analysis of archaeological fauna reveals the timing and intensity of plant cultivation and animal husbandry. Isotopic values from the Dadiwan site suggest that both intensive millet production and full-time provisioning of pigs and dogs did not emerge until the Late Banpo period (ca. 6.2 kBP). This study provides a baseline for comparing regional trajectories of Neolithic intensification that comprise the origin of agriculture in northeast Asia.

Bar-Yosef, Daniella (University of Haifa) and Irit Zohar (Tel-Aviv University)

[115] *The Role of Aquatic Resources in the Natufian*

The potential of aquatic resources to Natufian daily economy, is examined, including: 1) Ecological characteristics of the aquatic habitats that determine species composition and distribution; 2) Nutritional characteristics of aquatic food; 3) Technological aspects and energy costs required for fishing tools, fishing, fish utilization, and shell bead production. The data is drawn from archaeological sites representing a wide geographic area that includes different habitats along the eastern Mediterranean, Jordan valley, and the Negev desert. Those allow us to scrutinize these resources in light of shifting economic strategies at the onset of agriculture.

Bar-Yosef, Ofer (Harvard University)

[259] *Radiometric dates and archaeological observations-who determines the cultural history?*

Archaeological cultural histories are based on the recognition of classified assemblages derived from the excavations of stratified sites. The paleo-anthropological interpretations of the available remains, whether of hunter-gatherers or early farmers allow us to identify past social entities regardless of environmental changes. Dating techniques are supposed to assist in establishing the chronology of the relative cultural sequences, but there is no point in permitting radiometric dates, some of which are based on open systems such as TL and ESR, to definitely determine the cultural stratigraphy. Examples from Middle and Upper Paleolithic sites, as well as Neolithic villages will illustrate this issue.

[22] *Discussant* [115] *Discussant*

Bash, Kevin [212] see *Austerman, Gini*

Batai, Ken [312] see *Williams, Sloan R.*

Bate, Emma (Indiana University)

[63] *Palmetto Ware and Majolica: The Ceramics of the Long Bay Site, San Salvador Island, The Bahamas*

The Long Bay Site, San Salvador was excavated by Dr. Charles Hoffman of Northern Arizona University from 1983-1992, with an eye to determining if it was the site of contact

between Spanish explorers and Lucayan Tainos. In addition to Spanish pottery, glass, and metal artifacts, his excavations also yielded a wide variety of Lucayan Taino artifacts. This paper will present the initial results of the analysis of the Taino ceramic artifacts excavated at the site and then discuss the organization and layout of the settlement at Long Bay and the changes that resulted from European contact.

Bates, Lynsey (Monticello Department of Archaeology)

[124] *A GIS-based models of plantation spatial organization: Stewart Castle, Jamaica*
Archaeologists and historians have traditionally employed one of two basic models to evaluate plantation spatial organization: first, the centrality of production, based on the maximization of economic output; second, the centrality of control, based on the direct surveillance of slaves and conformity to the planters' spatial order. To assess these models, a 1799 surveyor's map of Stewart Castle, a Jamaican sugar plantation, is examined. GIS-based viewshed and cost surface analyses are applied using geographical data to determine the degree of visibility and centrality of important elements on the plantation landscape, including the great house, slave village and overseer's house.

Bates, Lynsey [8] see Clites, Elizabeth A

Bathurst, Rhonda (University of Toronto, Dept. of Anthropology)

[28] *Diatoms as Indicators of Viking Age Site Formation Processes*
Turf, a product of boggy lowland ecosystems, was a principle building material used in architectural construction in Viking Age Iceland. Macroscopically, degraded turf is difficult to distinguish from other soils, whereas microscopic diatoms, more common in turf sediments than in naturally occurring sediments, are indicators of turf transported from the wet lowlands. Sediment samples from within and outside a domestic longhouse were microscopically examined. Diatoms are more common in turf deposits than the natural prehistoric soils on which the longhouse was constructed. Therefore diatom abundance and species can indicate anthropomorphic change to the local environment and cultural site use activity.

Bathurst, Rhonda [28] see Walker, Phillip L.

Batiuk, Stephen (University of Toronto)

[268] *'Stubborn' Cultural Conservatism and Hybridization in the Early Bronze Age: The case of the Early Transcaucasian Culture*
The third millennium BCE witnessed the appearance in the Near East a cultural assemblage known as the Early Transcaucasian Culture (ETC). Recent studies have shown its distribution to be the result of a series of small-scale migrations by groups who betray a stubborn cultural conservatism for the thousand years of its existence. Nevertheless, as the bearers of the ETC migrated into populated areas, the intense interaction between groups still led to a degree of hybridization, particularly evident in the ceramic repertoire. This paper will discuss these migrations and the effects the interaction had on the migrant and indigenous communities.

Bauer, Andrew and Peter G. Johansen (University of Chicago)

[229] *Producing Difference: Contextualizing the Politics of Landscape in Iron Age northern Karnataka*
The archaeological record of the South India Iron Age attests to the emergence of pronounced social differentiation and large-scale labor mobilization, yet evidence for institutionalized authority is conspicuously absent. Excavation data and surface documentation suggest that politically salient social distinctions were largely negotiated through the agro-pastoral economy, feasting, building practices, and perhaps access to specialized technology (e.g., Iron). Hence, aspects of landscape production during the period -- the creation of places where animals were unequally grazed, cultigens were grown, water was stored, and Iron was smithed -- were part of political strategies that (re)negotiated access to social and symbolic resources.
[229] Co-Organizer [229] Chair

Bauer, Andrew M. [229] see Johansen, Peter

Bauer, Brian and Antonio Coello Rodríguez

[13] *The Royal Inca Mummies*

The fate of the mummies of the Inca kings following the Spanish conquest of Peru has been the focus of more than a century of historical and archaeological research. Several lines of evidence indicate that five of the royal mummies were deposited in the Hospital of San Andrés in Lima in 1560. In this work, we summarize what is currently known concerning the fate of the royal Inca mummies as well as the results of a recent ground-penetrating radar survey and an archaeological testing program which we conducted on the hospital grounds.

Bauer, Brian [13] see Covey, R Alan

Baumler, Mark (MT State Historic Pres Office)

[154] *This Man - Arthur J. Jelinek*

In a teaching and research career spanning a critical period in the evolution of modern archaeology, Arthur J. Jelinek, aka "Tabun Man," earned the respect of his colleagues and students alike. Foremost a gentleman and scholar of the Old World Paleolithic, his influence and contributions to New World archaeology are no less recognizable. In this Festschrift symposium, Arthur Jelinek's students and their students share recent research, tracing their roots back to this man's legacy and scholarship. By looking at their work, we are honoring his.

[154] *Chair*

Baxter, Jane (DePaul University)

[146] *A Different Way of Seeing: Identifying Children and Adults in 19th Century Graffiti on San Salvador, The Bahamas*

Literature on the archaeology of childhood has challenged to approach the archaeological record in a way that enables the social, economic, and symbolic contributions of children to become viable parts of the stories we tell about life in the past. This paper engages this particular theme in the literature using the case of graffiti identified at a 19th century former plantation site on the island of San Salvador, The Bahamas. Current preferred interpretations of graffiti in these contexts focus adult creators. A careful examination of this graffiti indicates that children were responsible for the creation of some of this artwork.

[63] *Discussant*

Baxter, Jane [146] see Burton, John D.

Beach, Tim [109] see Sweetwood, Ryan V.

Beach, Timothy (Georgetown University) and Sheryl Luzzadde-Beach (George Mason University)

[109] *Soil Chemistry and Ecofacts of Wetland Fields in Belize*

Our main goals are to understand ancient Maya use, formation, and timing of two wetland field complexes in Blue Creek and the Programme for Belize region of northern Belize. We present several soil parameters, including micromorphology, black carbon, magnetic susceptibility, general chemistry, carbon isotopes, and elemental analysis. We also present paleoecological evidence, including pollen, phytoliths, and macrobotanicals, from different soil layers and field and canal zones of the wetlands. These lines of evidence show crops that range from maize to fruits, and imply different management strategies over a millennium of environmental change.

Beach, Timothy [109] see Luzzadde-Beach, Sheryl

Beary, Mark (University of Missouri), Jeffrey Ferguson (University of Missouri), Michael Glascock (University of Missouri), Resha Shanandoah (Statistical Research, Inc.) and Robert Wegener (Statistical Research, Inc.)

[304] *Neutron Activation Analysis of the US 60 Project Ceramics*

Neutron activation analysis of 100 samples from six sites revealed patterns of raw material use through time, space, and technology. Three compositional groups were identified among the Late Archaic, Early Agricultural, and Hohokam site components. Two of the groups have similar cultural patterns and chemical composition, but the remaining group is quite distinct and limited almost exclusively to one site, ware, and type produced between AD 235 and 325. A single tempered, but unfired, clay sample was assigned to the largest group and suggests local manufacture of at least some of the ceramics recovered.

Beasley, Melanie (California State University, Chico), Antoinette Martinez (California State University, Chico) and Eric Bartelink (California State University, Chico)
[202] *Subsistence Patterns in the San Francisco Bay Area: Results from Stable Carbon and Nitrogen Isotope Analysis*

This presentation addresses dietary implications of the stable isotope results from the Ellis Landing site, a late Holocene shellmound from San Francisco Bay (ca. 3740 B.P. to 760 B.P.). The sample consists of 68 adult skeletons, which have been chronologically seriated through radiocarbon dating. The findings will be compared to previous stable isotope research conducted on sites in the area. An overview of spatial and temporal trends indicated by stable isotope results and zooarchaeological and botanical evidence from the area will be discussed. This analysis will contribute to the body of knowledge concerning subsistence in prehistoric Central California coast populations.

Beaubien, Harriet (Rae) [167] see Pohl, Christie M

Beaudoin, Matthew (Memorial University)

[235] *Guns, Nails and Pipes: A 19th Century Multiethnic Sod House in Southern Labrador*
This paper is an overview of the excavation of a 19th century Labrador Métis sod dwelling structure in Southern Labrador and how this compares to previously excavated Inuit and European structures in the region. The adoption of the Inuit style sod dwelling structure by Europeans and Labrador Métis has complicated the ongoing debate concerning the culture history of Southern Labrador. My research will add to a sod structure typology for the region which will help direct future research concerning sod dwelling structures in Southern Labrador.

Beaule, Christine (Duke University)

[178] *Early complexity, inter-regional exchange, and the socioeconomic structure of two highland Bolivian communities*

Household-focused excavations at two villages in the Bolivian altiplano (Oruro) with pre-Tiwanaku and Tiwanaku-contemporary occupations are used to test a model linking incipient socioeconomic differentiation to participation in exchange and craft production. At Condor Chinoka, imports are negatively correlated with access to preferred cuts of meat, while at Jachakala wealth differentiation predates participation in inter-regional networks linking Oruro and Tiwanaku. The impact of Tiwanaku goods clearly differs according to communities' internal socioeconomic structure; Jachakala's physical divisions fostered intra-group differences lacking at Condor Chinoka. These fundamental principles of social organization may also help to explain some variability in more hierarchical societies.

Beaumont, Jody (Tr'ondek Hwech'in) [271] Discussant

Beaven-Athfield, Nancy [141] see Shewan, Louise

Beaver, John [65] see Madden, Odile M

Bechberger, Jillian and Lawrence Todd (Colorado State University)

[221] *Making Mountains out of Molehills: Taphonomic Processes in High Elevation Environments*

High elevation archaeological sites are subject to unique taphonomic processes. Researchers at Colorado State University examined the formation of buried cultural deposits in the Absaroka Mountains of northwestern Wyoming. By integrating topographic data with gopher activity, a GIS-based model was used to predict the path of erosion and

the rate of deposition of particulate matter originating from gopher mounds. The predicted rate of sedimentation was compared with the actual amount of deposition determined through test excavation and radiocarbon dating. Initial results indicate fossorial rodents significantly impact sediment accumulation at high elevation archaeological sites.

Beck, Charlotte [214] see *Fontes, Lisa M.*

Beck, Colleen (Desert Research Institute) and Susan R. Edwards (Desert Research Institute)

[212] *Archaeological Research on the Plowshare Program*

The Plowshare Program existed from the mid 1950s to the mid 1970s. It focused on the Atomic Energy Commission's use of nuclear explosives for peaceful applications, such as constructing canals and harbors, building dams, and stimulating oil and gas production. After the program ended, information about Plowshare projects became more difficult to find and concerns increased regarding potential environmental liabilities on the landscape. Historical research determined that more than 150 projects were proposed throughout the United States. Archaeological field work relocated more than 50 project sites and recorded each in order to assess the potential for environmental liabilities.

Beck, Lane [20] see *McClelland, John*

Beck, Margaret [166] *Chair*

Beckwith, Laurie (Douglas College)

[73] *Chorrera as a Horizon Style and Its Impact on Understanding Prehistoric Interaction*

The Late Formative Period of Ecuador, dating between 1000 and 100 BC, is best known for the Chorrera culture. The Chorrera style is often presented as a horizon style, one that spread through much of coastal and highland Ecuador. This paper will explore the implications of designating Chorrera as a horizon style and some of the assumptions this designation holds for our understanding of interaction during the Late Formative Period. The paper will suggest that, at least for parts of the Ecuadorian coast, the evidence shows more restricted and localized ceramic stylistic homogeneity than has been proposed in the past.

Bedingfield, Krista [308] see *Crumbley, Norma K.*

Beeker, Charles [258] see *Conrad, Geoffrey W.*

Beekman, Christopher (University of Colorado, Department of Anthropology)

[227] *What can western Mexico tell us about Formative Olman's "international" role?*

I consider several scholars' suggestions that Formative western Mexico was an alternate root of Mesoamerican society without close relations with Olman, by breaking down the evidence. Distinctive architecture, ceramic, and iconographic traditions tie together Early/Middle Formative western sites and differentiate them from eastern Mesoamerica. Yet if we move past the criteria of shape and design, we find that mortuary traditions suggestive of corporate groups are shared with parts of Oaxaca, and elite corporate groups in the west participated in long distance trade networks that overlapped with those encircling Olman. We should consider whether language was a selective barrier to interaction.

Begay, Richard (Agua Caliente Band of Cahuilla Indians)

[132] *Casinos and Community Aggregation*

Archaeologists use various analytical tools to determine the level of integration of prehistoric communities, such as the quality and quantity of clay sources in ceramics production or the establishment of buffer zones between villages, and to determine estimated populations. This poster proposes to use these same analytical techniques to determine whether the built environment of casinos on Indian reservations can provide insight into the associated population. Additional information, such as land size, population, and income will be used to shine new light on analytical tools employed by archaeologists.

[132] *Co-Organizer*

Beisaw, April

[284] *Memory and Identity within Late Prehistoric Cultures of the Susquehanna Valley*
Adherence to culture historic taxonomies has stagnated research on the late prehistoric cultures of the Northeast. Here, cultural identity is largely based on a combination of geographic territories at Contact and ceramic types found within those territorial areas. This approach overlooks the fluidity of individual and cultural identities and the permeability of geographical and cultural boundaries. This research explores the potential for burial rituals, as preserved acts of social memory, to provide a new means of understanding the late prehistoric landscape in the Susquehanna Valley of New York and Pennsylvania.

Belardi, Juan (Univ Nac de la Patagonia Austral), **Flavia Carballo Marina** (Universidad Nacional de la Patagonia Austral), **Gustavo Barrientos** (CONICET, Universidad Nacional de la Plata y UNCPBA), **Rafael Goñi** (Instituto Nacional de Antropología y Pensamiento Latinoamericano, FFYL y UNCPBA.) and **Silvana Laura Espinosa** (CONICET y Universidad Nacional de la Patagonia Austral)

[118] *The Holocene Peopling of Southwestern Patagonia (Argentina): New Insights from the Tar and San Martín Lake Basins*

This paper is aimed to discuss the hunter-gather occupation of Tar and San Martín lake basins, considering the spatio-temporal distribution of the archaeological record in different ecological units (steppe, forest, and ecotone). The occupational record locally begins at 9.6 14C ky BP, continuing in a punctuated way until historical times. The evidence suggests a rather marginal use of the westernmost areas, which were probably logically exploited from population cores located eastwards. Given that the occupation of southern Patagonia was not spatially continuous, the evidence provided here is used to discuss the process of peopling of these and similar Andean basins.

Belcher, William [22] see *Krigbaum, John*

Belfer-Cohen, Anna [115] see *Goring-Morris, Nigel*

Belisle, Veronique (University Of Michigan)

[147] *Continuity at the Village Level during the Middle Horizon in the Cusco Region*
In the Cusco area, archaeologists have focused on two large Wari centers, Pikillaqta and Huaro, and concluded that Wari controlled the Cusco area during the Middle Horizon. Systematic surveys in the region confirm that Wari architecture does occur at only those two settlements, although some Wari ceramics appear at some local sites. Ongoing excavations at the village of Ak'awillay provide detailed household data necessary to evaluate the impact of Wari expansion on the local population. Preliminary data suggest limited and indirect Wari influence at the village of Ak'awillay and much greater influence at the large Wari centers.

Belknap, Daniel [231] see *Kelley, Alice R.*

Bell, Ellen (California State University, Stanislaus), **Cassandra R. Bill** (Capilano College and MARI) and **Marcello A. Canuto** (Yale University)

[59] *The View from the Other Side: Borders, Boundaries, and Administrative Strategies in the El Paraíso Valley, Western Honduras*

Recent research in southeastern Mesoamerica highlights the inadequacy of models that define cultural borders as spatially fixed entities. In this paper we employ an interactionist approach to model administrative strategies in the El Paraíso Valley, western Honduras. We emphasize the importance of shifting ties among El Paraíso residents, Maya elites at Copan, and non-Mayan groups to the southeast in local political and economic development. In addition to discussing indirect ties to Chibchan groups, we examine the fluid nature of borders and boundaries in the southeast Maya area, providing suggestions for modeling interaction and political organization in the Chibchan region.

Bell, Julie [46] see *Francisco, Liz*

Bell, Trevor [250] see *Bambrick, Jillian M.*

Bell, Trevor J [235] see *Westley, Kieran*

Bello, Charles, Carolyn Dillian (Princeton University) and Nequandra Bowen (Princeton University)

[24] *True Blue: Vivianite as a Mineral Pigment*

We may not know the meaning of color in the past, but we can discover its use and association through archaeological science. Blue colors were difficult to achieve in the prehistoric past. The mineral vivianite may have served as one source for blue pigment in the prehistoric Mid-Atlantic region. An interdisciplinary approach combining geology, ethnohistory, and experimental archaeology determined vivianite's potential as the source of blue pigments. Replicative experiments revealed techniques for maximizing the vivid blue color of this material that could have been employed by prehistoric Native American inhabitants of the eastern United States.

Bellorado, Benjamin

[317] *Breaking Down the Models: Reconstructing Prehistoric Subsistence Agriculture and Settlement Patterns in the Durango District of Southwestern Colorado*

This presentation investigates interrelationships between agriculture and prehistoric settlement patterns throughout the Upper Animas River drainage. This analysis draws together archaeological data, experimental agriculture, paleoclimatic reconstructions, and settlement distributions in the Durango District of southwestern Colorado. Between A.D. 650-840 populations in the Upper Animas began to settle in villages of increasing size for the first time in their history. Concurrently, a complex suite of runoff and dry land subsistence agricultural techniques were developed from Ak'chin farming strategies. This research models the changes in Ancestral Puebloan lifeways that occurred, and assesses factors that led to early village formation.

[2] see *Hurst, Winston*

Belmaker, Miriam (Harvard University) and Erella Hovers (The Hebrew University of Jerusalem)

[205] *A diachronic study of the micromammal remains of Amud Cave, Israel: Implications for the paleoecology of a Neanderthal site during MIS 4-3 in the Levant*

The micromammalian assemblages from Amud Cave, a Neanderthal site in the Dead Sea rift, Israel (70-55 kya; MIS 4-3), were analyzed from taphonomic and paleoecological perspectives. The abundance of *Microtus guentheri* may reflect a taphonomic overprint resulting from selectivity of *Tyto alba* as the accumulating agent rather than an indication of open habitats. Thus, the analysis suggests the existence of a Mediterranean woodland habitat in the site's vicinity. The data also point to an evolutionary and ecological persistence of the micromammal communities at the site throughout the 15 ky sequence, despite local climatic fluctuations.

Beltrán Medina, José Carlos (Centro INAH Nayarit)

[198] *La concha y el caracol en la bahía de Banderas*

Los restos de moluscos son la mejor evidencia de la explotación del ecosistema de costa estuario y del arrecife de coral en la bahía de Banderas, mostrando gran actividad a finales del preclásico, durante el clásico y el posclásico mesoamericano, lo que generó intercambios mercantiles con alejadas regiones continentales.

Benbow, Luke

[141] *Quotidian Life of Medieval Khmer*

Aside from some limited investigations archaeological research in Cambodia has tended to concentrate on the temples and hydraulic infrastructure rather than habitation.

Understanding the quotidian nature of life at Angkor has been largely overlooked. The goal of this research is to excavate 'habitation mounds' or 'house mounds' outside the main temple complexes at Angkor, with the aim of increasing understanding of Khmer life during the Angkor period and developing an archaeological toolset for working in the alluvial

conditions that exist in the greater Angkor region.

Benitez, Alexander (George Mason University)

[43] *Late Classic and Epiclassic period obsidian procurement and consumption in the southeastern Toluca Valley, Mexico*

More than 11,000 obsidian artifacts excavated from the Late Classic and Epiclassic period site of Santa Cruz Atizapan, Toluca Valley, Mexico were subjected to attribute analysis, chemical sourcing studies, and macroscopic use-wear analysis. Acquisition and consumption patterns were explored in order to assess the regional impact of Teotihuacan's demise during the Late Classic. This research produced several key results: 1) Ucareo, Michoacan obsidian (not Teotihuacan controlled sources) was primarily imported and used in all site contexts during the Late Classic period, and 2) obsidian tools were used almost exclusively for completing daily utilitarian tasks.

Benson, Buck (Idaho State University) and Herbert Maschner (Idaho State University)

[241] *Photon Activation Analysis (PAA): A completely non-destructive technique for whole-artifact analysis of obsidian and other materials*

Photon Activation Analysis (PAA) is a completely non-destructive method of whole artifact analysis. With sensitivities nearing 10-100 ppb, it holds exciting potential as a complementary technique to neutron activation analysis (NAA) and ICP-MS when sampling is prohibited, or as an alternative to x-ray fluorescence (XRF) when the material is too heterogeneous for superficial analysis alone. Recent experiments with samples from known obsidian sources, as well as other volcanic materials, have demonstrated that PAA has the ability to analyze dozens of elements simultaneously and provide data comparable to other techniques.

Benson, Buck [220] see *Cordell, Craig L.*

Bentley, Alex [11] see *Madsen, Mark E.*

Bentley, Alexander [261] see *Lipo, Carl P.*

Bentley, R. (University of Durham)

[261] *Network representations of cultural transmission - are they necessary?*

Network analysis is increasingly used in fields as diverse as physics, biology, genetics, linguistics and sociology. Network representations, however, are relatively static - the network in one time frame typically becomes the basis for modeling the next time frame, such that change only occurs with imposed modifications. Is this the best way to represent culture transmission? More naturally fluid models offered by evolutionary theory may often be better suited to the dynamics of cultural change. This paper will explore how these contrasting representations may have different advantages for particular case studies.

Bentley, R. Alexander [22] see *Krigbaum, John*

Benton, J (SCI / Arizona State University) and M. Scott Thompson (Arizona State University)

[261] *Modeling Dual-Processual Theory*

This paper discusses an agent-based computer simulation that models variability in leadership strategies using Blanton et al.'s (1996) "Dual Processual Theory." In our model, each leader is represented by a planning agent who interacts with households and possesses a utility valuation on a set of goals. Utility valuation follows Blanton et al.'s corporate-network axis for leadership strategies. After leaders execute plans, they re-examine and change their utility valuation based on current success. We evaluate the impact of several different factors on leader's decisions to change their leadership strategies.

Berdan, Frances (California State University)

[16] *Emblems of Prestige and Wealth: The Economic Life of Aztec Warrior Regalia*
Aztec imperial society was highly militaristic. Men achieving renown as warriors on the

battlefield were awarded specifically designed costumes and devices corresponding to the number of enemy captives they secured. These regalia were fashioned throughout the empire and entered the ruler's coffers as tribute to be redistributed by him to deserving warriors. Additionally, this paraphernalia was manufactured in the imperial capitals by highly skilled featherwork artisans. This paper explores the life histories of these symbolically charged regalia, emphasizing the criteria used in determining their styles as well as rules governing their production and movements through the complex imperial milieu.

Berdan, Frances [74] see Maynard, David Forbes

Berg, RPA, Caryn (SWCA Environmental Consultants) and Claudia Berry (SWCA Environmental Consultants)

[53] *The Applicability of the Parry and Kelly model to sites in the Northern Southwest*
Parry and Kelly (1987) suggested that an increase in sedentism will be accompanied by a decrease in the use of formal tools and a concomitant increase in the use of informal tools. Using data from sites in southwestern Colorado, the research presented here evaluates flaked stone assemblages from the Archaic through the early Puebloan periods. Flaked stone analyses were correlated with changes in subsistence strategies and with evidence for increased sedentism to address the efficacy of using Parry and Kelly (1987) as an explanatory model.

53] Co-Organizer

Bergh, Sarah (University of Georgia)

[113] *Spatial and Temporal Distribution of Vertebrate Remains from St. Catherines Island, Georgia*

People appear to have exploited the same suite of vertebrates from approximately 2000 B.C. until the sixteenth century A.D. on St. Catherines Island. However, when the faunal remains from archaeological sites of each time period are mapped with GIS, spatial and temporal patterns appear in the human use of these resources. This distribution demonstrates both change and continuity in the natural and social environments over time. When combined with other archaeological and ecological evidence from the island, the faunal remains demonstrate flexible human decision-making processes regarding resource use in the face of changing environmental and social conditions.

Berghausen, Karin [54] see Fassbinder, Jorg W.E.

Berman, Mary Jane (Center for American and W)

[240] *Paying Tribute: Shining Moments in Lucayan Prehistory*

By the fifteenth century, the Lucayans of the Bahamas archipelago participated actively in northern Antillean interaction spheres, as evidenced by a range of symbolically-charged non-local materials and objects found in the archaeological sites dating to this time period. In contrast, early Lucayan sites show fewer and less diverse foreign items. I propose that social, political, and economic processes, including colonization, mobility, sedentism, territorial expansion, and the financing of local and supra-local elites explain the observed temporal and spatial variation. Varying types of inter-island exchanges (trade, tribute, marriage transactions) were critical to each of these processes.

[196] Discussant

Berna, Francesco (Dept Archaeology, Boston University), Bertrand Ligouis (Laboratory for Applied Organic Petrology, Tübingen, Germany), Paul Goldberg (Dept of Archeology, Boston University, Boston MA), Rosa Maria Albert (ICREA Dept. Prehistoria, Historia Antiga i Arqueologia, Universitat de Barcelona) and Solveig Shiegl (Dept. of Early Prehistory and Quaternary Ecology, Univeristät Tübingen, Germany)

[259] *High Resolution Study of Prehistoric Combustion Features: Insights on how Neanderthals Used Fire at Kebara Cave (Israel)*

This study investigates several combustion features from Mousterian deposits from Kebara cave in Israel. Indurated undisturbed blocks and thin sections were investigated by soil

micromorphology, organic petrology, infrared microspectroscopy, electron microscopy, and phytolith analysis. Thus, by maintaining the contextual integrity of the features, we obtained in situ high resolution evidence on how Neanderthals managed fire at Kebara. This includes hearth organization, the temperature achieved, oxygenation, the fuel type and species, its collection season, and state of preservation. Our results will thus provide fundamental keys to better understanding Neanderthal behavior and differences with that of modern humans.

Berna, Francesco [259] see *Ferring, Reid*

Bernabeu Aubán, Joan [153] see *McClure, Sarah B.*

Bernardini, Wes [50] see *Reseburg, Nicholas M.*

Bernardini, Wesley (University of Redlands)

[228] *North, South, and Center: an Outline of Hopi Ethnogenesis*

Hopi traditional knowledge frames historical accounts in terms of two broad groups of people: the Motisinom ("first people") and the Nootungqwsinom ("later people"). These two populations differed in origins, ritual, language, and political structure. Contemporary Hopi society emerged from the reconciliation of these two traditions, elements of which are still visible in the ritual calendar and tensions in Hopi philosophy. Understanding the origins and interactions of these traditions is central to an understanding of Hopi ethnogenesis.

Berrojalbiz, Fernando

[185] *La Litica Chalchihuiteña del Norte de Durango*

En este trabajo se caracterizará la industria lítica de la cultura chalchihuiteña del norte de Durango (600 d.c. 1300 d.c.) siguiendo el enfoque de la reconstrucción de las cadenas operativas. Resulta de gran interés estudiar un complejo lítico en su totalidad desde los desechos más pequeños hasta los instrumentos acabados y estudiar los diferentes métodos de talla, de los instrumentos más toscos a las puntas de flecha, a través de la reconstrucción de las diversas cadenas operativas.

Berry, Claudia [53] see *Berg, RPA, Caryn M.*

Berryman, Carrie (Vanderbilt University), Deborah E. Blom (University of Vermont), Kelly J. Knudson (Arizona State University) and Robert H. Tykot (University of South Florida)

[274] *Isotopic Insight into Middle Horizon Urbanism: Dietary Resource Distribution and Residential Mobility at Tiwanaku*

By the Middle Horizon, the site of Tiwanaku in the southern Titicaca Basin became home to one of the first state level societies in the Americas. The social and economic organization of Tiwanaku's "barrios," and thus, the nature of urbanism at the site, has long been debated. Extensive isotopic study of residential mobility and subsistence patterns among residential sectors of the site is providing significant insight into life as experienced by various factions of society. This paper presents bioanthropological data elucidating the dynamic life histories of Tiwanaku inhabitants, underscoring the value of isotopic studies for examining prehistoric socioeconomic organization.

Besonen, Mark (University of Massachusetts) and Christopher H. Roosevelt (Boston University)

[39] *Living in Central Lydia: Changing Environmental Conditions*

This paper explores possible linkages between environmental conditions and settlement patterns through an analysis of the formation and history of the Gygaean Lake. Data from 14 lake sediment cores collected in 2006 indicate that after a period of incipient growth, the lake experienced a period of complete desiccation followed by a recovery that has persisted to the present. Chronology for the sequence is forthcoming, and will be provided by AMS radiocarbon dating. Archaeological survey indicates stark settlement pattern shifts between the Early Bronze, Middle-Late Bronze, and Iron Ages, and possible correlations between these environmental and archaeological phenomena are explored.

Bethard, Jonathan (The University of Tennessee), Catherine Gaither (Metropolitan State College of Denver), Jonathan D. Kent (Metropolitan State College of Denver), Teresa Rosales Tham (Arqueobios) and Víctor Vásquez Sánchez (Arqueobios)
[274] *Advances in Andean Isotopic Research: Movement and Subsistence through Space and Time*

Few scholars have reported stable isotope data from archaeological sites along the north coast of Peru. In this study, we present isotopic results from Late Intermediate Period interments from the Santa Rita B archaeological site in the Chao Valley. During our excavations here, human skeletons, including several human sacrifices, were encountered. Stable isotopes of carbon and nitrogen were analyzed for subsistence information while strontium and oxygen isotopes were analyzed for the purpose of studying residential mobility. In this paper, we present these data, as well as the first reported strontium isotope baseline information from the Chao Valley.

Bettencourt, Luis (Los Alamos National Laboratory) [261] Discussant

Bettinger, Robert (University of California-Davis)

[270] *How Do Hunter-gatherers Get Information?*

Nearly all human action hinges on information acquired by individual learning or social transmission. That hunter-gatherer population densities are low, and so much hunting and gathering is solitary, has led some to argue that hunter-gatherers depend almost wholly on individual learning guided by principles that maximize individual inclusive fitness. On that view, socially transmitted information is untrustworthy unless accompanied by a costly signal preventing self-interested deception. On the contrary, cheap, reliable social transmission is likely vital to hunter-gatherers because environmental information is often poor and because they live in socially coordinated arrangements characterized by repeated interaction and punishment of deviance.

[57] *Discussant [199] Discussant*

Bettinger, Robert [202] see Tushingham, Shannon; [22] see Morgan, Chris

Bettinger, Robert L. [22] see Barton, Loukas W.

Betts, Colin (Luther College)

[93] *Varying Dietary Patterns in the Late Prehistoric Midwest and Southeast*

Examination of stable isotope data for late prehistoric maize agriculturalists from the Midwest and Southeast reveals geographically patterned variability in diet. Specifically, groups from the Southeast display significant differences in the degree of collagen $\Delta^{13}\text{C}$ and $\Delta^{15}\text{N}$ enrichment. It appears that these differences are due to the same process, notably, a relative dearth of C3 protein sources among Southeastern groups. A search for possible sources of these differences involves consideration of both environmental and cultural factors.

Betts, Matt [220] see Cordell, Craig L.

Betts, Matthew (Canadian Museum of Civilization) and Herbert D. G. Maschner (Idaho State University)

[230] *Zooarchaeology of the 'Fish that Stops': Using Archaeofaunas to Construct Long-term Time-Series of Atlantic and Pacific Cod Populations*

Fisheries management decisions are typically based on biological records which only span several decades. However, zooarchaeological data can extend these records by millennia. In this paper, we integrate size-based indicators (SBIs) from modern biological and archaeological records to track changes in the population structure of Pacific cod (*Gadus macrocephalus*) and Atlantic cod (*Gadus morhua*) over several thousand years. We assess long-term cycles in North Atlantic and North Pacific cod stocks against regional climactic records and local histories of exploitation. This type of multi-regional palaeofisheries research is crucial if we are to understand modern decadal trends within centennial and millennial cycles.

Betts, Matthew [194] see *Jordan, James*; **[289]** see *Maschner, Herbert*

Betts, Matthew W. [36] see *Lech, Veronica*

Bever, Michael (The University of Texas at Austin)

[245] Paleoindians, Microblades, and the Discrimination of Mixed Assemblages in Arctic Alaska

The Mesa complex of Arctic Alaska, with its distinctive bifacial tools, is usually interpreted as a Paleoindian phenomenon, part of the broader tradition found throughout North America. However, the type site of the Mesa complex also contains wedge-shaped core microblade technology, something decidedly non-Paleoindian in character. This has led to conflicting interpretations of the site. This paper explores the microblade component at the Mesa site and its relationship to the better known Paleoindian component, the larger concern of mixed assemblages in Arctic Alaska, and why microblades and Paleoindians matter in discussions of the earliest archaeology of Alaska.

Bey, George J. [203] see *Andrews, E. Wyllis*

Bey III, George J. [110] see *Simms, Stephanie R.*

Beyin, Amanuel (Stony Brook University, Dept of Anthropology)

[94] Later Stone Age settlements on the Red Sea Coast of Eritrea

This paper presents results of recent archaeological fieldwork in the Gulf of Zula and Buri Peninsula, Red Sea Coast of Eritrea. The findings include abundant Later Stone Age (LSA) sites from inland and coastal contexts. Backed tools and prismatic blades characterize the lithic assemblages at the LSA sites. Abundant mollusk shells were also recovered in association with lithic artifacts suggesting human exploitation of marine resources. The chronological placement of the sites and their implications for models of LSA coastal human adaptations along the Red Sea Coast of the Horn of Africa is discussed.

**Bezerra De Almeida, Marcia (Sociedade De Arqueologia Brasileira, Brazil),
Claudio Delorenzi (Oikos Peso. Aplicada Ltda) and Yonara Carricho (Northwest
Archaeological Association, Inc.)**

[107] Two of a Kind: A Comparative Approach Between CRM in Brazil and United States

This paper considers a reflection of CRM in Brazil and United States during the last decades. Written by authors of distinct experience in archaeology, the paper presents a critical review of the CRM in both countries, emphasizing the relationship to academic archaeology, the role in the archeology training and the impact on the representation of the discipline by the new generations of archaeologists.

Bezic, Ana [276] see *Boz, Basak*

Bezy, Philippe

[310] Maya Social Interactions, a Musical Perspective

Shell trumpets were used throughout the Maya area, from the Preclassic (Kaminaljuyu) to the Postclassic (Mayapan). Their continuous presence denotes the importance the Maya attributed to this type of wind instrument, despite the fact that Maya representations of shell trumpets are stylized. The Maya mainly linked shell trumpets with ritual practices.

Archaeologically provenanced trumpets support this association. Depictions of the social contexts of shell trumpet use refines understandings of the specific ritual moments involved. In fact, as this paper will show, the visual record indicates that there were seven distinct types of ritual shell trumpet use.

Bianchini, Gina Faraco [139] see *Scheel-Ybert, Rita*

**Bibby, David (Landesamt Fuer Denkmalpflege, Baden-Wuerttemberg
Regierungspraesidium Stuttgart)**

[65] From the Dirt to the Disk: a Continuum

The conditions for successful archiving of archaeological excavation data are set out at the outset - on the excavation itself. Well thought out, structured data collection is a prerequisite of successful and accessible archiving. For this reason, the Heritage Department of the Federal State of Baden-Württemberg, Germany (Landesamt fuer Denkmalpflege) has and continues to develop a structured digital data collection, data servicing and archiving system for archaeological excavations. The Data collection on excavation is based mainly on Total-Station-Survey with some laser-scanning and database for descriptive data. The data structure is standardised and can at the end of the excavation be smoothly transferred to the safe haven of a state of the art server. Access to the data on the server is for authorised persons only. Wider access to our excavation data is at present under implementation, with the addition of the excavation geometry to our ADAB-WEB (general sites and monuments data base), with a Web front end and GIS-functionality. From this platform the excavation geometry, attributed with a centrally administered unique excavation number will thus interface not only to the excavation data on the central sever but also to the excavation finds in central finds archive.

Bicho, Nuno (FCHS), António Carvalho (Universidade do Algarve (Portugal)) and Claudia Umbelino (Universidade de Coimbra (Portugal))

[186] *A southern perspective: Mesolithic research in Portugal*

Portuguese Mesolithic research started in the 19th century, mostly centered in the Tagus valley. In the 1950's new interest seemed to appear and research was carried out in various regions of Central and Southern Portugal, including the Sado basin and the western Atlantic coast. Mesolithic prehistory lost interest at the end of the 20th century, but on the last decade, southern Portugal became the new center of development of Mesolithic research. In this paper we focus on the new results from recent research from the Tagus valley down to the Algarve coast, during the Boreal and Atlantic phases.

Bicho, Nuno [69] see Manne, Tiina H.; [94] see Haws, Jonathan A.

Biehl, Peter (SUNY Buffalo), Catriona Gibson (English Heritage), Eva Rosenstock (Free University Berlin) and Jonathan Last (English Heritage)

[276] *Rethinking the 'Neolithic' at Catalhöyük: linking East and West*

Until recently, little was known about the West Mound at Catalhöyük other than that it produced distinctive painted pottery traditionally assigned to the Early Chalcolithic. However, the excavation of a building dated to the 59/58th century BC has revealed differences from the East Mound, though the early dates show the West Mound was integral to the story of Neolithic Catalhöyük. New work aims to understand the site's origins in the Late Neolithic and how it overlapped with the East Mound. In this paper, we offer a preliminary interpretation of the social changes and continuities between East and West.

[160] *Discussant*

Biehl, Peter [183] see Boast, Robin B.

Bierer, Susan (Northern Arizona University)

[299] *Digital Archaeology: Integration of Geographic Information System Technology in the Archaeological Database*

Current use of Geographic Information Systems (GIS) by archaeologists brings attention to needed protocols required to implement and maintain an accurate GIS. This paper documents the strengths of GIS as a companion to traditional archaeological site files, and highlights the complexities of maintaining both archival records and electronic databases. Updating and correction of GIS against archival site files is a first step in maintaining electronic databases. Maintaining archaeological databases is part of the preservation process, requiring a dedicated position within federal, state, and private agencies to keep up with a growing archaeological record.

Bigelow, Nancy [17] see Mason, Owen K.

Biittner, Katie (Department of Anthropology University of Alberta)

[123] *Stone raw material utilisation during the MSA in southern Tanzania*

Stone tools have a critical role to play in our understanding of the origins and evolution of modern humans. In particular, the raw materials that are utilised in stone tool production provide information relating to organisation of technology and group mobility. Using macroscopic and petrographic analyses, lithic artifact assemblages from two rockshelter sites, Magubike and Mlambalasi, in southwestern Tanzania are accurately characterised in order to evaluate inter- and intra-assemblage variability. Preliminary analyses demonstrate a considerable range in raw material variability for the Middle Stone Age, in comparison to the Later Stone Age, assemblages.

Bill, Cassandra [197] Discussant

Bill, Cassandra R. [59] see Bell, Ellen E.

Billeck, William

[51] *Temporal Variation in Small Glass Bead Assemblages in the Plains*

Small, drawn glass beads dominate glass bead assemblages in North America. Bead size and color changes in the Plains are explored using archaeological assemblages from seventeenth, eighteenth and nineteenth century Native American sites and nineteenth century Euro-American trading posts.

Binning, Jeanne (California Department of Transportation)

[53] *Quarry Sites, Non-Quarry Sites, and Biface-Reduction Debitage*

Although not always recognized in the lithic technology literature, the biface-reduction flake is a technologically diagnostic debitage type. Understanding the genesis and morphology of these flakes can provide information on technological change and the relationship between quarry and non-quarry sites. Three examples from the southwestern Great Basin are presented.

Birch, Jennifer (McMaster University, Department of Anthropology)

[72] *Terminal Woodland Coalescence and the Changing Experience of Domestic Space in South-central Ontario*

Settlement data from the Terminal Woodland period in south-central Ontario suggests that ancestral Huron populations underwent a process of coalescence during the late fifteenth and early sixteenth centuries A.D. This paper will explore the changing construction and experience of domestic space in one community relocation sequence during this period. The dramatic increase in settlement size, population and the proximity of inhabitants implies a very different experience of community and domestic life than in previous generations.

Bird, Douglas, Brian Codding (Stanford University), Christopher Parker (University of Utah) and Rebecca Bliege Bird (Stanford University)

[173] *The ethnoarchaeology of fire-stick farming in Indigenous Australia*

Among Mardu hunter-gatherers in Australia's Western Desert, reliance on traditional foods requires the maintenance of an anthropogenic ecosystem, a task accomplished with the use of fire, mainly by women. Quantitative data gathered over a seven-year period indicate that the result is best described as a "woman's" landscape: a fine-grained mosaic in which key resources are available within daily foraging range of residential bases. Differences between fire-managed and unmanaged landscapes may be detectable archaeologically through isotopic analysis of faunal remains. We assess this possibility in a pilot study of hill kangaroo (*Macropus robustus*).

[173] *Co-Organizer*

Bird, Rebecca Bliege [173] see Bird, Douglas W.

Bishop, Laura [238] see Ferraro, Joseph V.

Bishop, Ronald (Smithsonian Institution)

[56] *The Role and Relevance of Research at American Museums*

Museums have become businesses with organizational complexities that vary according to

size. Within these institutions, support for research waxes and wanes among often conflicting demands for exhibition, education, entertainment—and scholarship. This paper explores varying contexts of museum-based research, its justification, and limitations imposed upon it. My examples are drawn from my experiences with national and international museum programs acquired over more than three decades. Any correspondence between the matters discussed and specific situations experienced by our honoree, Dr. Jeremy A. Sabloff, may be coincidental.

Bishop, Ronald [257] see Demarest, Arthur A.

Bishop, Ronald L. [297] see Triadan, Daniela

Biskowski, Martin (Dept. of Anthropology, CSU Sacramento) and Karen Watson (Department of Anthropology, CSU Sacramento)

[277] *Changing Approaches to Maize Preparation at Portezuelo*

Changes in grinding tools reflect a combination of household, community, and regional concerns. Portezuelo's shift from a Teotihuacan center to a major independent Epiclassic/Postclassic town to an abandoned Late Postclassic settlement affected the intensification of maize preparation, craft specialization, and regional economic integration. This paper examines the results of artifact attribute and distributional analyses of grinding tools from Portezuelo and explores what this evidence reveals about the changing socioeconomic organization of this center.

Bjerck, Hein (NTNU Vitenskapsmuseet)

[186] *Specialized marine foragers in the Pleistocene / Holocene transition in Northwestern Europe. New evidence from the Preboreal Fosna site Locality 48, Aukra, Northwestern Norway*

The presentation will focus the earliest development of marine foraging society in Northwestern Europe. The recently excavated Locality 48 (9000-8800 cal BC) may enlighten details in this problem. The site is an aggregation of twenty smaller, astonishing uniform units that may shed light on Preboreal dwellings and social units. Settlement patterns suggest specialized seal hunting, and several of the smaller units have fireplaces that seem to have been fueled by blubber.

Black, Christian [12] see Doyel, David E.

Blackman, M. James [297] see Triadan, Daniela

Blackmore, Chelsea (UC Riverside)

[302] *Recognizing Difference in Small-Scale Settings: An Examination of Social Identity Formation at the Northeast Group, Chan Belize*

Investigations at the Northeast Group, part of the site of Chan, Belize, challenge questions of class organization, explicitly the dichotomy between commoner and elite. While these categories reflect the extreme ends of known social strata, they inadequately characterize the reality of day-to day interactions. This research examines social diversity at a Late Classic neighborhood. Specifically, how were differences in social identity and status expressed by community members and how did these manifest within the settlement unit of a neighborhood? Excavations and analyses suggest that ritual played a key role in the formation of social identity throughout the Chan community.

Blackwell, Bonnie (Williams College), Anne R. Skinner (Williams College), C.S. Churcher (University of Toronto), Maxine R. Kleindienst (University of Toronto) and Rebecca Long (RFK Research Institute)

[205] *Dating Dahkhleh Desert Dwellers: ESR Analyses of Middle Pleistocene Teeth from Egypt*

In the Western Desert, Dahkhleh Oasis has yielded Middle Pleistocene ungulate bones and teeth associated with LSA, MSA and ESA artefacts in the calcareous silty sediment (CSS). Modern recent deflation has produced a deposit of mixed reworked artefacts. Fragments and whole teeth have been dated from Locality D006 and Snail Hill. Bulk and attached

sediment has been analyzed to calculate the external dose rates, although high enamel and dentinal U concentrations cause the internal dose rates to dominate the total doses. Ages indicate fauna inhabited the area during several Middle Pleistocene wet phases that correlate with the marine OIS record.

Blair, Elliot (American Museum of Natural History)

[114] *Beads and the Mission Landscape – Native - Spanish Interaction at Mission Santa Catalina de Guale, St. Catherines Island (GA)*

It has been well demonstrated that Spanish missions of La Florida were constructed along a preordained, though somewhat variable, quadrangle plan. The convento-cocina complex – located within the (often palisaded) religious core of the mission – was a standard component of this plan. Studying the 70,000 glass trade beads recovered from Mission Santa Catalina, while focusing on those from the convento-cocina complex, this paper examines differential temporal and functional usage of mission space. Typological and spatial analyses of the beads will also be used to discuss ideas of Native - Spanish interaction within the central mission complex.

Blair, Elliot [173] see *Thomas, David Hurst*

Blair, Susan E. [287] see *Gorman, Elizabeth N.*

Blaisdell-Sloan, Kira (Department of Anthropology)

[290] *Practice, knowledge and multi-sited archaeology: A case study from Colonial Honduras*

Based in a case study from Colonial Honduras, this paper will examine the benefits of research that moves beyond the individual site, to look at contemporary interacting communities within a region. In particular this paper will discuss the benefits of using household level evidence to examine site and household specific (localized) practices in light of the practices contemporary linked communities to understand broader networks of knowledge. This approach is particularly useful for the Colonial period, where issues of knowledge are central as different kinds of individuals and communities navigate colonial power structures.

Blake, Karry (Washington State University)

[110] *Life and Times in a Late Formative and Classic Period Soconusco Wetland, Chiapas, Mexico*

In the Soconusco region of Chiapas, Mexico archaeological investigations have focused on the use of estuaries during the Archaic and the transition into agriculture during the Early Formative. This strong research direction has afforded archaeologists a vast amount of information yet we have a void in our knowledge about the use of these areas during subsequent periods. Recovery and analysis of pollen data from a 467 cm long sediment core (SOC05-4) collected adjacent to Cerro de las Conchas has provided insight into how people utilized the estuary zone during the Late Formative and Classic Periods.

Blake, Michael (University of British Columbia)

[175] *Comparing the northward and southward spread of maize*

New evidence for the antiquity of maize's initial spread northwards and southwards from the Río Balsas region of western Mexico suggests differences in the timing and mechanisms for its movement in each direction. The northward spread into northern Mexico and the US Southwest may have been partly related to population movement while the southward spread into southern Mexico and beyond may have been the result of down-the-line exchange and borrowing. Recent radiocarbon dates, DNA, and plant fossil analyses suggest maize's adoption was early in both regions but the initial reasons for its adoption may have been quite different.

Blake, Michael [175] Chair

Blake, Michael [52] see *Lepofsky, Dana; [52]* see *Oakes, Nicole; [218]* see *Canal, Cecilia; [52]* see *Formosa, Susan B.*

Blakey, Janet (Lifeways of Canada Limited), Amanda Dow (Lifeways of Canada Limited) and Brian Vivian (Lifeways of Canada Limited)

[221] *Looking Back Today (Come What May) at Everblue By You*

This poster describes the results of mitigative excavations undertaken at the Everblue Springs Site (EgPn-700). Discarded animal bones and stone tools indicate human inhabitants visited this location several times over the last 8000 years. The extensive faunal assemblage recovered from the site included the remains of forty mature bison as well as antelope, deer, canid, rabbit, and beaver. The large tanged and basal barbed projectile points collected at Everblue Springs have seldom been found in Alberta or beyond, and figure to represent a short lived style associated with a transitional period when projectile points and hunting technology underwent great change.

Blakey, Janet [221] see Vivian, Brian C

Blakey, Michael (College of William and Mary)

[182] *Dialectics and Meaning*

The New York African Burial Ground Project demonstrates the significance of varied scales of analysis that change the meanings of the results of archaeological research. Our use of African, Diasporic, and Atlantic world contexts rather than local interpretive contexts; the engagement of a dialog among scientific and humanistic disciplines; the involvement of public authority and knowledge along with academic and consulting anthropologies, together transform the meanings derived from the particular observations of artifacts and skeletal indicators at the site. We are thankful for the scholarship of Merrick Posnansky for fostering among American archaeologists careful study of Africa in pursuit of a rigorous understanding of the African Diaspora.

Blanco, Alicia [180] see Sugiyama, Nawa

Blanford, Adam

[41] *Maize Agricultural Fields and Surveying to the South of Ceren*

To facilitate Ground Penetrating Radar data collection, two survey grids were established using a theodolite and stadia rod. Two of the test pits excavated revealed maize ridges with thinner stalks and more immature maize ears than those found at Ceren, indicating these plants had not reached maturity when Loma Caldera erupted. We hypothesized agricultural productivity would decrease with distance from Ceren, but our findings suggest otherwise. Within the first survey grid at the crest of a hill, another plot of land may have once supported manioc agricultural fields, but had been cleared several years prior to the Loma Caldera eruption.

Blankenship, Sarah (University of Tennessee), Alan Cressler (USGS) and Jan Simek (University of Tennessee)

[258] *Prehistoric Cave Art from Florida*

Recently, at the instigation of local amateur cavers, we visited a small limestone cavern in north Florida. The cave, like a number of others in the region, had been used prehistorically and had been partially looted. On the walls of the cave are eight petroglyphs, most abstract, that resemble images seen in prehistoric cave art sites further north above the fall line. This is the first cave art so far discovered in Florida, and it indicates that this important aspect of prehistoric culture in the Appalachian plateau is also present where caves can be found along the Gulf of Mexico.

Blankenship, Sarah [258] see Simek, Jan F.

Blanquel Garcia, Dai Elihu [198] see Hinojo, Adriana

Blanton, Richard (Purdue University) and Lane Fargher (Purdue University)

[14] *Barrio Organization in the Social Construction of Mesoamerican Cities*

Pre-modern urban ecology often manifested the spatial segregation of social classes or commercial, religious, governmental, or occupational or guild functions. A common

Mesoamerican pattern may be distinct in that some cities were constituted as organizationally discrete neighborhoods that were constituent elements of social systems constructed symbolically on the basis of principles of opposition and complementarity. Based on ethnohistoric and recent archaeological research, we investigate the foundation of Postclassic Taxcala (now Tlaxcala), Mexico, to illustrate how barrio organization provided the structural foundation for rapid urban growth.

Bleed, Peter (University of Nebraska-Lincoln)

[100] *Niche Construction Theory, Agricultural Origins and the Search for Fit Domesticates*
Niche construction theory is well suited for consideration of the ecological dynamism associated with the origins of agriculture. As a constructed niche, agriculture changed human behaviors and crop species in ways that drew them closer together. Jomon Japan suggests that human manipulation of plants and animals was well developed among early Holocene hunting/gatherers. Agriculture may have resulted not from human developments, but when some plants and animals responded to such human investments in ways that let them command human attention. Species that succeeded in this can be considered fit domesticates.

Bleed, Peter [22] see Matsui, Akira

Blind, Eric (Presidio Trust) [247] Discussant**Blockley, Stella (Royal Holloway University of London) and Clive Gamble (Royal Holloway University of London)**

[143] *Human presence in Europe during the Younger Dryas: landscape use and species exploitation from radiocarbon dated material*
The Younger Dryas (GS1) shows a contraction of human population compared with the preceding Interstadial (GI-1). Although dates on proxy evidence for humans remain constant, direct radiocarbon dates on human remains decrease. It is argued that this can be linked both to a changing seasonal round and to cultural changes. There is a reduction in the diversity of species exploited during GS1, with a greater reliance on reindeer. Furthermore, there are indications of a more limited number of dated artefact types, especially when compared with the following Holocene period, in which species diversity, artefact type and spatial distribution increase dramatically.

Blom, Deborah (University of Vermont), Jane E. Buikstra and Maria C. Lozada C. (University of Chicago)

[263] *Development of Bioarchaeological Research in the Contisuyo*
Researchers studying human skeletal material have been crucial in answering important questions regarding ancient society in the Osmore Drainage, most prominently those addressing population movement, resource distribution, status, and identity. We argue that bioarchaeological research in the region supported by Programa Contisuyo has been particularly successful because of extensive multi-generational collaboration by scholars of various institutional and national affiliations. Additionally, bioarchaeological experts have played an integral part in the development of the research programs, in many cases directing projects themselves. This paper highlights the history of bioarchaeology in the region and the knowledge that has resulted from this work.

Blom, Deborah E. [274] see Berryman, Carrie Anne

Blomster, Jeffrey (George Washington University) and David Cheetham (Arizona State University/New World Archaeological Foundation)

[227] *Six Degrees of Olmec: Comparisons of Interaction with Olman in Oaxaca and Soconusco*

Interregional interaction during the San Lorenzo (or Early) horizon is often framed in extreme polemics, with the peoples of Olman caricatured as either creators of all Mesoamerican civilizations or just one of many roughly comparable players during the Early Formative. While recent research indicates Gulf Olmec peoples served as the initial fount and purveyors of the Olmec style, it has become increasingly clear that the nature of

contact between Olman and distant regions was highly variable and locally contingent, dependent on the desires of both indigenous and foreign parties involved. Data from Oaxaca and the Soconusco demonstrate the variety of interactions.

Blondiaux, Joel (Northern Center for Paleopathological Research)

[291] *Management of Archaeological Human Remains in France: Concepts, Methods and Results*

Though marked with a great institutional dispersion, which can be considered together challenging and negative, the archaeology of retrieved human remains in France underwent considerable progresses during the last three decades. Morphological research challenged by genetic approach and political correctness has been rather neglected though the study of diachronic variations and migrations are still open fields. Palaeontology, representing since centuries the French specific osteological domain is benefiting from old collections revision. From Mesolithic times to Modern periods, palaeodemography and archaeoanthropology expanded dramatically compared to palaeopathology represented by individual and sometimes flawed initiatives. The bio-molecular outbreak is worth mentioning. Paleodemography (Masset, Bocquet Appel) conceptualized methodological bases for reliable past population reconstructions. Archaeoanthropology (Duday) focused on the specific and cultural informations inside the funerary assemblage (selection and distribution of individuals, goods transmission, rites and ceremonies, taphonomic processes). It permitted the training and the recruitment of nearly 100 professionals.

Blood, Narcisse (Mookakin Foundation) [271] Discussant**Blukis Onat, Astrida (BOAS, Inc.)**

[60] *Thunderbird and the Underground Whale: geoarchaeological evidence of catastrophic environmental change in the Puget Sound Basin*

Legends among the peoples in the Puget Sound Basin relate the environmental history of the region using metaphor. Thunderbird, Underground Whale, North Wind, Frog, Beaver, and other mythological beings cause major topographic change and instigate climatic events. Evidence of earthquakes, volcanic eruptions, severe winds, and floods is evident in the geologic record of the region and these events can be expected today. Archaeological deposits at two locations, one on the Duwamish River, and one on the Nookachamps River, may contain evidence commemorating such dramatic events, when examined through the framework of native traditions.

Boast, Robin (University of Cambridge) and Peter Biehl (State University of New York, Buffalo)

[183] *Web 2 and the sociology of archaeological knowledge*

Our traditional understanding of knowledge, of a discipline or in a discipline, on-line or off-line, assumes either a direct correspondence with the world or a systematic semantic correspondence with concepts. Even Web 2 largely ignores the past 70 years of sociological and philosophical arguments for an understanding of knowledge as situated skillful practice. This paper explores, through several on-going projects, how both Web 2.0 and Web 3.0 fail to recognize this vital aspect of disciplinary knowledge and public understanding of knowledge, and how many of the tools of Web 2 could be used to enable a diversity of perspectives.

Boaventura, Rui [215] see Hillier, Maria L.**Bocinsky, R (University of Notre Dame), Mark R. Schurr (University of Notre Dame) and Terrance J. Martin (Illinois State Museum)**

[91] *Rodent Stable Carbon-isotope Ratios as a Measure of Maize Production*

Non-human faunal stable carbon-isotope ratios (SCRs) have been used as a proxy measure of human maize production. We postulate that rodents from sites associated with maize production would have substantial access to food-stores, thus rodent SCRs might be indicative of maize production levels. We measure SCRs in rodent remains recovered from several sites of prehistoric and historic maize consumers, and compare these numbers to other measures of maize production. This data may then be used to estimate agricultural

intensity at sites where there are faunal remains, but little or no human preservation.

Boehm, Andrew, Erik Otarola-Castillo (Iowa State University) and Nancy Coinman (Iowa State University)

[95] Investigating Technological Change by Debitage, a Multivariate Morphometric Approach

Lithic assemblages do not always contain temporally or culturally diagnostic artifacts. Reduction techniques may be attributable to particular archaeological cultures, and suggest links to human behavior. Using a multivariate morphometric approach, this study analyzes a debitage sample from Tor-Sadaf, a multi-component Paleolithic site in Jordan. Results are compared to diagnostic artifacts recovered from the site to provide insight to the different reduction techniques and technological related human behavior taking place at the site. Implications from this study are related to the overall technological organization of humans during this time period, and subsistence strategies.

[95] Co-Organizer

Boehm, Andrew [95] see Byerly, Ryan

Bogaard, Amy (School of Archaeology, University of Oxford), Andrew Fairbairn (University of Queensland), Füsun Ertu, Katheryn Twiss (Stony Brook University) and Nurcan Yalman (Istanbul University)

[276] Two Sides of the Same Coin: archaeological and ethnographic perspectives on storing and sharing food at Çatalhöyük. Part I: Storage

Food storage is fundamental to accounts of the shift from hunting and gathering to farming, but these discussions often lack detailed investigation into the nature, scale and diversity of storage practices in early agricultural communities. Çatalhöyük provides an opportunity to explore these aspects using complementary archaeological datasets. Moreover, new ethnographic/ethnobotanical work in Anatolia offers comparative data on methods, distribution, seasonality and social context of food storage practice. Here we combine recently excavated storage evidence, re-analysis of plant store samples from the 1960s excavations and ethnographic work in order to refine understanding of food storage at Çatalhöyük and its broader implications.

Bogucki, Peter (Princeton University)

[296] Mature Animal Economies of the Fifth Millennium B.C. in Central Europe

During the fifth millennium B.C. in central Europe, regional animal economies emerged that bridged the gap between the pioneer economies of the earliest farmers of the sixth millennium B.C. and the complex animal management practices of the fourth millennium B.C. Cattle, sheep, goat, and pig each played a particular role as Neolithic households managed risk and accumulated property. Case studies of the Brzezina Kujawski Group in Poland and the Villeneuve-Saint-Germain Group in France are used to examine the regional animal economies that helped lay the foundation for the Secondary Products Revolution.

Boivin, Nicole (University of Cambridge)

[229] The social and political context of prehistoric maritime activity in the Indian Ocean

The Indian Ocean has long been recognised as an important arena for long-distance interaction and trade in ancient times. However, to date, investigation of maritime activity in the region has focused largely on the trading activities of major state-level societies and empires. In addition, trade has often been studied as an economic activity, instead of a social and political one. This paper will examine evidence for precociously early long-distance connections across the Indian Ocean, and explore the possibility that they derive, at least in part, from the social and political activities of small-scale societies and local maritime communities.

Boldsen, Jesper [286] see Paine, Richard R.

Bolender, Douglas (SUNY At Buffalo, SUNY)

[249] Land Tenure, Environmental Change and Homefield Intensification in Viking Age and Medieval Iceland

Historically Icelandic agriculture has been viewed as marginal and highly dependent on climatic variation. In particular, agricultural declines in the Late Medieval have been seen as a response to climatic deterioration associated with the Little Ice Age. The history of agricultural enrichment strategies a dozen farms in the Langholt region of Northern Iceland was assessed. Soil samples were systematically collected from homefield areas and phosphate values were measured with the Mehlich II method. A comparison of enrichment patterns, land tenure practices, and climatic records suggest that household status had a greater role in determining agricultural practices than environmental considerations.

Boley, Michael J. [89] see Rawson, Paul M

Bollongino, Ruth (Palaeogenetics Group Johannes Gutenberg-University of Mainz), Jean-Denis Vigne (CNRS, Natural History Museum, Paris) and Joachim Burger (Palaeogenetics Group, Institute of Anthropology, University of Mainz, Germany)
[256] *Revealing cattle domestication – an example of fruitful cooperation between genetics and (zoo-) archaeology*

We studied the mitochondrial sequences of over 130 Mesolithic and Neolithic cattle remains from Europe and Western Asia. Our results reconstruct the domestication of cattle in the Fertile Crescent and the subsequent spread into Europe and revealed the role of local aurochs populations. Furthermore, we demonstrate the impact of appropriate excavation techniques and sample treatment on the outcome of molecular analysis. In this presentation we would like to demonstrate what ancient DNA can do for archaeology, and what archaeology can do for a successful ancient DNA analysis.

Bollwerk, Elizabeth (University of Virginia) [283] Chair [283] Co-Organizer

Bon-Harper, Sara (Monticello) and John G. Jones (Washington State University)

[8] *Historical Ecology of the Monticello Landscape*
The artificial plateau of Monticello Mountain was created in the late 1700s. The original and never-plowed mountain surface, now buried under deposited sediments, is preserved here as no where else on the mountain. Recent excavation provides an opportunity to study these profiles, offering a contrast to our previous geoarchaeological research focusing on eroded sediments from extensively cultivated mountain slopes, and adding to our understanding of human activity in this location. Pollen and stratigraphic evidence are used to interpret the ecology of Monticello Mountain before and after its anthropogenic modification, including pre-contact, historic, and modern periods.

Boomert, Arie

[240] *Crossing the Galleons' Passage: Amerindian interaction and cultural (dis)unity between Trinidad and Tobago*

The islands of Trinidad and Tobago formed separate sociopolitical, economic, cultural, and spiritual entities throughout most of their colonial history. This situation was clearly prefigured by the two islands' prehistoric past following the Saladoid era of pan-Caribbean cultural unity. This convergence disintegrated rapidly after the establishment of the Arauquinoid series in Trinidad by about AD 700/800 as simultaneously Tobago appears to have been drawn into the Troumassoid interaction sphere of the Windward Islands and Barbados. This paper discusses this cultural realignment and consequent lessening of interaction and communication across the Galleons' Passage between Trinidad and Tobago during late-prehistoric times.

Boone, Cristie (University of California, Santa Cruz)

[7] *Stochasticity, state, and simulation: how dynamic state variable modeling can enhance zooarchaeological research*

Optimal foraging theory, as currently used in archaeology, makes several assumptions, including 1) optimal behavior maximizes rates of energy intake, 2) prey choice depends mainly on the highest-ranked prey's density, and 3) every resource gathering trip is successful. Dynamic state variable modeling permits a) incorporating numerous behaviors into one model and considering trade-offs between behavioral alternatives, b) using the forager's energetic reserves as an important factor, and c) simulating a series of choices

and results, using probabilities to describe their parameters. These more realistic models are adaptable and expandable, and should be incorporated into evolutionarily oriented zooarchaeological research.

Boone, James (University of New Mexico) and Paul Hooper (University of New Mexico)

[261] *Networks and the origins of inequality*

Theories about the origins of inequality fall into two categories: conflict (or coercive) theories which emphasize competition and maintenance of unequal access to resources by actual or symbolic contest, and integrative (or voluntaristic) theories that emphasize cooperation and production of public goods through the formation of managerial hierarchies. Social formations characterized by "pure" coercive stratification and those with managerial organization have distinct network properties. We discuss why this is so, suggest that such formations also have distinct archaeological signatures, and illustrate with archaeological and ethnographic examples.

Boone, James L. [48] see *Worman, F S.*

Boraas, Alan (Kenai Peninsula College)

[194] *Emergence of Dena'ina Sedentary Salmon Fishing during the Medieval Warm Period: Cook Inlet, Alaska*

Intensive salmon fishing appears in the Cook Inlet, Alaska area about 1000 BC as represented by the Riverine Kachemak culture which targeted sockeye salmon using drift net fishing techniques but appear to have lacked large-scale storage techniques. The Riverine culture is replaced during the Medieval Warm Period about AD 1000 by Dena'ina Athabascans which developed underground cold storage techniques targeting coho salmon leading to sedentism, cultural complexity, and sustainability.

Borchert, Jeani (North Dakota Dept of Trans) [166] Discussant

Borck, Lewis (University of New Mexico) and Patricia Crown (University of New Mexico)

[140] *Preliminary Results of Organic Residue Analyses of Ceramics from Pueblo Bonito, Chaco Canyon*

Ceramics from the mounds directly south of Pueblo Bonito were submitted for Gas Chromatography/Mass Spectrometry analysis of the fatty acids absorbed within the ceramic matrix. Visible organic residues, removed from the interior face of some sherds, were also submitted for analysis. Grayware and whiteware jar sherds revealed a varying presence of fatty acids. Experimental work with plants and animals from the American Southwest was conducted in order to provide a reference collection of fatty acid signatures for interpreting the prehispanic sherds.

Bordach, Maria (Universidad Nac de Rio Cuarto) and Osvaldo Mendonça (Universidad Nacioanl Rio Cuarto)

[291] *Bioarchaeological Research In Argentina: Past, Present and Future*

In this paper, we discuss the theoretical approaches that have shaped osteological studies in Argentina over the past several decades. Initially, human remains were used as sources of typological analysis; however, osteological research has become increasingly grounded in modern bioarchaeological techniques and interpreted within theories of social dimensions of mortuary behavior. While this evolution parallels changes in the field elsewhere, some bioarchaeological studies in Argentina still use inappropriate samples and methods which led to biased data analysis, and overly simplistic interpretations. We explore the geopolitical and sociocultural forces that have shaped bioarchaeology in Argentina.

Borella, Florencia [292] see *Favier-Dubois, Cristian M.*

Borghi, Penni [173] see *Trammell, Joshua B.*

Boric, Dusan (University of Cambridge)

[186] *Vlasac re-opened: Mortuary complexity and Mesolithic-Neolithic transformations in the Danube Gorges*

The paper presents new excavations at the Mesolithic-Neolithic site of Vlasac in the Danube Gorges. A number of complex and diverse burial practices, both extended inhumations and cremations, were encountered that span the period from the Late Mesolithic through the Middle Neolithic with an apparent continuity in the sequence. New excavations also revealed evidence of changes in mortuary customs and the treatment of the body in the crucial period of Mesolithic-Neolithic transformation. Such evidence sheds light on the character of culture change that took varied forms across the Balkans in the late 7th mil. BC.

Borojevic, Ksenija (Boston University)

[86] *Food from a Late Neolithic House in Southeast Europe*

A large quantity of well preserved plant macro remains have been retrieved from a house at site of Vinca, Serbia, providing evidence for food processing in the late Neolithic. The remains consist primarily of charred emmer and vetches and were concentrated around a grinding stone found within the house. Exceptional finds include a large quantity of mineralized brittle emmer chaff scattered in a layer above the floor. Charred whole fruits of pears and plums were also retrieved. The new discovery provides the first direct evidence allowing reconstruction of food supplies and preparation within a Vinca house, ca. 6000 years old.

Borrero, Luis (CONICET) and Fabiana Maria Martin (CEQUA)

[270] *Visits, Guaicurues and information networks*

The presence of Kaweskär maritime hunter-gatherers among bands of the terrestrial Tehuelche of the central coasts of the Strait of Magellan was noted and interpreted as evidence for the existence of slavery or other systems implicating social differences. Another interpretation based on the existence of supra-regional safety nets for both maritime and terrestrial people should be explored. The circulation of information about resource abundance, positioning of bands, and environmental stress may be used to discuss those atypical human aggregations. An archaeological discussion based on the distribution of maritime items and human burials in the hinterland will be presented.

[57] *Discussant*

Borrero, Luis [101] see Barberena, Ramiro

Bostwick, Todd [12] see Swanson, Steve

Boswell, Alicia [232] see Goldstein, Paul S.

Boszhardt, Robert (Mississippi Valley Arch Center)

[258] *Caves, Crevices, and pillars: rock art variation in the Driftless Area of the Upper Mississippi River Valley*

The unglaciated Driftless Area contains a concentration of rock art sites in the Midwest. These are situated in sandstone rockshelters, deep caves, small crevices, and on exposed pillars. Documented art includes a variety of natural and geometric petroglyphs and pictographs. Early chronological interpretations are based on cross-style comparisons with portable art found at well-dated habitation sites and a few direct AMS dates on pictograph pigments. Interpretations of meaning are also in their infancy.

Botic, Cheri [7] see Madden, Gwyn D.

Boudreau, Monique and Mia Jorgensen (University at Buffalo)

[251] *Revisiting Plaza One, Teotihuacan*

The reanalysis of Plaza One at Ostoyohualco, Teotihuacán is based on archaeological material that was excavated under the direction of René Millon in 1959. The collection from the excavation includes bone awls, figurine fragments, bone fragments, obsidian points,

and ceramic shards beginning with the Tzacualli Phase (200-300 BC). Collected along with these materials were layer samples, concrete fragments, and pieces of once adobe walls. It is our belief that we will be able to gain a further understanding of Plaza One's context, and its place within the city of Teotihuacan by examining the ceramics and osteological remains.

Boulanger, Matthew (University of Missouri Research Reactor), Christina Luke (Boston University), Christopher H. Roosevelt (Boston University), Dan Pullen (The Florida State University) and Michael Glascock (Archaeometry Laboratory, University of Missouri Research Reactor)

[39] *Ceramic Production in Central Lydia from the Early Bronze Age through the Late Lydian Period: Preliminary Results from Instrumental Neutron Activation Analysis*
INAA of 286 ceramics from 26 sites in central Lydia, ranging from Early Bronze to Iron Age, augment macro-scale analyses of paste, fabric and surface treatment. Combined with archaeological settlement and geological data, these results give insight into organized ceramic production at small hamlets and large political centers, thus providing a framework for understanding inter- and intrasite interactions over time. We explore how political centralization during the Middle–Late Bronze Age, and subsequent imperial development influenced the production of ceramic wares and, thus, how these patterns reflect the social significance of ceramic types to their producers and consumers.

Boulanger, Matthew [127] see Hudson, Corey M.; [216] see Rosania, Corinne N

Bourke, Edward (Department of the Environment, Heritage and Local Government)

[65] *Towards the creation of an Irish Archaeological Archive*

The National Monuments Service is working towards the creation of an Irish National Archaeological Archive which will contain the records of the Archaeological Survey of Ireland, excavation reports and archives, and all files and records which contain archaeological evidence, as well as a library and reading room. This archive has been identified as one of the major priorities for Irish Archaeology in reports from the Royal Irish Academy, the Heritage Council as well as by our own Department. This paper will discuss the range of archive material available, its curation and storage and report on progress to date.

Bousman, Britt (Texas State University - San Marcos) and James Brink (National Museum, South Africa)

[149] *Holocene Geoarchaeology and Archaeology at Baden-Baden, South Africa*
Recent geoarchaeological and archaeological research at the spring mound site of Baden-Baden exposed a long and complex sequence of deposits, but an archaeological record limited to the Holocene. Three components were recognized including a Late Holocene antelope kill-site, a Late Holocene Wilton occupation and a Middle Holocene non-microlithic occupation. The Middle Holocene occupation is similar in character and age to that described by Sampson at the site of Voigstpost 1. These results do not fit the accepted model of Oakhurst followed by Wilton, and may indicate a unique and heretofore unrecognized cultural adaptation in the Free State grassveld.
[149] *Chair [149] Co-Organizer*

Boutton, Thomas [202] see Bartelink, Eric J.

Bovy, Kristine (University of Rhode Island)

[60] *Birds, People and the Environment: Biogeographical and Paleoenvironmental implications from western Washington avifaunal remains*

The potential for investigating faunal remains from shell midden sites to better understand human and environmental interactions, as well as the past distributions and abundances of animals, has long been recognized. However, although bird remains, especially waterfowl, are often discussed in the ethnographic literature of the Northwest Coast, they tend to comprise a fairly small percentage of the faunal assemblages in the region and are often left unanalyzed. Therefore, I have recently analyzed large assemblages of bird bones from the Watmough Bay (45-SJ-280) and Minard (45-GH-15) sites, and will discuss the

biogeographical and paleoenvironmental implications of these data.

Bowen, Nequandra [24] see Bello, Charles Andrew

Bowers, Peter (Northern Land Use Research), Ben A. Potter (University of Alaska, Fairbanks), Carol Gelvin-Reymiller (Northern Land Use Research, Inc.) and Joshua D. Reuther (Northern Land Use Research, Inc.)

[220] The Little Delta Dune Site: A Late Pleistocene/Early Holocene Multicomponent Site In Central Alaska

We present results from recent investigations at a multicomponent site in the Tanana River Basin, Central Alaska. Hearth features, lithic artifacts, and associated avian and mammalian fauna were recovered from four components dated from the Late Pleistocene (~13,300 cal BP) to the Early Holocene (~10,000 cal BP) from within stratified sand dune and aeolian loess deposits. Stratigraphic integrity, site formation and disturbance are assessed, and landscape evolution is described. Implications for regional prehistory and human land use patterns are detailed.

Boyadjian, Celia (universidade de São Paulo (USP)), Karl Reinhard (School of Natural Resources, University of Nebraska, USA) and Sabine Eggers (Laboratório de Antropologia Biológica, Instituto de Biociências, Universidade de)

[139] Vegetal Microfossils Analysis in Dental Calculus from Brazilian Shellmounds

Microfossils originating from plant foods become trapped in dental calculus. Chemical processing of dental calculus allows extraction of these microfossils. Resulting data allow reconstruction of diet and vegetal use from past populations, especially in sites where macro botanical remains are barely preserved. Since there are cases in which the calculus deposits are insufficient, a technique called "dental wash" was developed and tested. Additionally dental calculus microfossils from humans excavated in a coastal (Jabuticabeira II) and a riverine (Moraes) shellmound were recovered using the traditional and the new methods respectively. The differences in diet found for these shellmound builders are discussed.

Boyd, Brian (Columbia University)

[115] Human-plant relations and the social archaeology of food in the Early Natufian

As part of an ongoing research project, "The Social Archaeology of Food at the Origins of Agriculture", this paper focuses on two issues. First, the Early Natufian predates the appearance of agriculture by almost 3000 years, and so should be studied in its own right as a particular set of social practices and traditions rather than as a direct, causally linked precursor the Neolithic. Second, consistent with recent theoretical developments in ethnobotany and related disciplines, I will here consider the use of plants in the Early Natufian not as strategies of exploitation but as the playing out of human-plant relationships.

Boytner, Ran

[157] In the Land of Many Features: Survey Results from the Lower Tarapaca Valley

The cultural center of the Pica-Tarapaca complex lies at the site of Caserones. Throughout the 1st millennium AD, Caserones dominated the ideological and political life of pastoral tribes moving between the coast and the pampa, coming together periodically at the site. Yet, Caserones cannot be understood without its setting in its immediate environment. This paper will discuss results from three consecutive seasons of survey. It will contextualize Caserones to the many sites found in its immediate environment and provide an extensive view of the role it played during the first millennium.

[157] Chair

Boz, Basak, Ana Bebic (Stanford University), Burcu Tung (University of California at Berkeley), Nurcan Yalman (Çatalhöyük Research Project) and Serena Love (Stanford University)

[276] Repetitive Practices, Domestic Memory and the Creation of Tradition at Çatalhöyük

This paper presents a detailed examination of three sequential houses Çatalhöyük. Issues concerning domestic habits are explored through repeated processes, visible in an unusual

ceramic assemblage, identical floor plans, continuity in building materials and the repeated placement of burials in platforms and recurring human interments in foundation deposits. These patterns further notions of inherited knowledge between generations and a social continuance. Emphasis is placed on building materials, ceramics and burial traditions, illustrating how houses construct, maintain and mediate the transmission of tradition. All of this combined evidence contributes to our understanding of the Neolithic practices, tradition, and concepts of place.

Boz, Basak [276] see Larsen, Clark Spencer

Boza, Maria Fernanda [131] see Murphy, Melissa S.

Brack, Michael (Desert Archaeology, Inc.)

[273] *The Distribution of Archaeological Remains at Estero Morúa and the Lower Río Sonoya*

Recent surface reconnaissance near Puerto Peñasco, Sonora delineates extensive prehistoric archaeological remains dominated by marine shell. Dense shell deposits concentrate on dunes surrounding Estero Morúa and terraces above paleochannels of the lower Río Sonoya. The shell is primarily food refuse, but also includes debris from jewelry manufacture. Material culture is continuous over at least 250 hectares, and more dispersed remains may cover an additional 400 hectares. Artifacts are limited in comparison to the shell, but pottery sherds, ground and flaked stone, and shell tools typically cluster at discrete occupational locales that often include deflated hearths and other cultural features.

Brackett, Claudia, Agustín Ortiz (UNAM), Luis Barba (UNAM) and Richard Lundin (WRI)

[251] *Chemical Analysis of Floors in La Casa de las Aguilas, Templo Mayor, Using PXRF and Spot Test*

The well-preserved floors exposed after the archaeological excavation of the Casa de las Aguilas allowed the study of the chemical residues impregnated in the porous of the floors. The first approach using spot test provided information concerning the differentiated use of the indoor space. Floors in front of the altars and causeways are the more enriched areas suggesting the importance of the rituals performed in these areas. To confirm the chemical enrichment PXRF was applied providing additional information of the elemental distribution.

Bradley, Bruce (University of Exeter)

[29] *Intention analysis: Experimental replication of Solutrean biface production at Les Maitreaux, France*

Solutrean biface technology is being investigated through detailed analysis, including extensive refitting, of reduction sequences from the site of Les Maitreaux, France. Since many of the archaeological refit sequences represent the products of expert knappers, one approach that is being applied is detailed analysis of individual replication sequences, including knapper intention. It is clear that we do not share a common production concept. Evaluation of this is based on width to thickness ratios of replicas compared to a large sample of archaeological specimens. The result of these approaches is a reassessment of our understanding of a Solutrean biface production scheme.

Bradley, James [143] see Newby, Paige E

Bradley, Ronna

[198] *Shell Ornament Exchange Networks in Prehistoric Northwest Mexico and the Southwest*

Marine shell ornaments from the Gulf of California were among the most widespread exotic artifacts prehistorically, with exchange networks that traversed large portions of Northwest Mexico and the Southwest. This paper reports the results of analysis of shell from a number of archaeological sites and defines stylistic patterns that change through time. These dynamic patterns reflect exchange networks first dominated by the Hohokam followed by Casas Grandes during the late prehistoric period.

Brady, James (Department of Anthropology) and Allan Cobb

[136] *Recent Discoveries of Speleothem Rock Art: An Assessment of the Field*

Since my restudy of Jobonche Cave in the late 1980s, both Andrea Stone and I have documented the presence of speleothem rock art in Maya caves. Both of us have synthesized the distribution of examples and have offered differing interpretations of its significance. In recent years, documentation of this type of art has clarified a number of issues surrounding these sculptures. This paper presents additional examples of speleothem rock art and assesses our understanding of the art form.

[280] *Discussant*

Brady, James [280] see Cobb, Allan B.; **[280]** see Perez, Arturo E.

Brain, Jeffrey [68] see Morrison, Peter**Braje, Todd (University of Oregon), Jon M. Erlandson (University of Oregon) and Torben C. Rick (Southern Methodist University)**

[36] *Crossing the Furry Divide: The Archaeology and Historical Ecology of California Channel Island Sea Mammals*

Archaeologists have long noted that pinnipeds and sea otters were important dietary and raw material resources for hunter-gatherers on California's Channel Islands. Faunal evidence for their exploitation, however, is limited until about 1500 years ago with assemblages typically containing Guadalupe fur seals, California sea lions, and smaller amounts of other otariids, phocids, and sea otters. Contrary to zooarchaeological evidence, the identification of sophisticated Early and Middle Holocene hunting tools and modern ecological data suggest that intensive sea mammal hunting may have begun much earlier and humans may have played a significant role in shaping their distributions and abundances.

Braje, Todd J. [36] see Rick, Torben C.

Brandt, Steven (University of Florida)

[270] *The Role of Information in Hunter-Gatherer Adaptations to Long-Term Environmental Change.*

Most archaeological models of how past band societies used information to adapt to long-term (centennial/millennial) environmental changes are based largely upon ethnographic, ethnohistoric and ecological studies of short-term, usually seasonal adaptations to fluctuating resources. This paper contributes to a general model of the importance of information acquisition, use and sharing in hunter-gatherer societies by comparing and contrasting those few longitudinal studies of contemporary and historic bands or wildlife affected by major environmental changes, with short-term studies. Utilizing these data, I conclude with a case study of the role of information in Late Pleistocene hunter-gatherer societies of the African Horn.

Brannen, Laura (Emory University)

[240] *Trade into, out of, and through Ancient Costa Rica and Nicaragua: Evidence from Art, Archaeology, and Geography*

Beginning c. 800 BCE, Costa Rican and Nicaraguan art styles evidence trade within these countries and out towards Mexico and Ecuador. While archaeologists in the two nations are currently digging to answer questions regarding trade and cultural affiliations, traditionally there has been a dearth of scientific excavations, leaving little direct evidence -- beyond art styles -- of trade into, out of, and through ancient Costa Rica and Nicaragua. By piecing together artistic evidence with archaeological proof and navigational studies, we can paint a clearer picture of ancient pre-Columbian commerce for these countries and the pan-Caribbean region.

Brant, Erika (California State University, Northridge)

[157] *New Petroglyphs From Northern Chile: A Study of Age and Function*

During the summer of 2007, a rock art survey conducted in the Tarapaca Valley located

two previously unrecorded petroglyphs sites. Though the two sites are similar in location and motif complexity, both differ substantially from other known petroglyph sites in the area. Analyses of these disparities have prompted new understandings regarding the function and dating of such expressions. Meanwhile, iconographic details reinforce hypotheses that local populations at Tarapaca maintained social and ideological ties to groups throughout the south central Andes.

Branting, Scott (University of Chicago)

[165] *Testing Simulations of Movement along Ancient City Streets at Kerkene Dağ, Turkey*
GIS-T methods have been used for several years to simulate movement along the reconstructed Iron Age city street network at Kerkene Dag in Central Turkey. This paper will discuss these methods and present the results of preliminary excavations undertaken to calibrate and test these simulations. It will also discuss the ongoing development in conjunction with Argonne National Laboratory of a new open source agent-based pedestrian simulator, SHULGI, for undertaking simulations of ancient movement and transportation.

Brantingham, P. (UCLA)

[29] *The Mathematics of Chaînes Opératoires*

The decision making processes that underlie core reduction are often framed in terms of the execution of different complex, integrated technological designs. This paper adopts an alternative approach of specifying simple, independent technological decisions deployed during reduction. These are used to develop three mathematical models of core reduction of increasing complexity. The modeled technologies are labeled Bernoulli, Markov and Price cores after their core mathematical properties. Expectations concerning core reduction intensity are derived and tested using data from Paleolithic sites in Africa and Asia.

Brantingham, P. Jeffrey [137] see Perreault, Charles

Brashler, Janet (Grand Valley State University) and Nate Hansen (Grand Valley State University)

[50] *Hacklander Ware: A Great Lakes Ceramic Mystery*

This poster describes the results of petrographic analysis comparing Hacklander Ware and other Woodland ceramics from two sites in western Michigan and presents models for interpreting the origins of Hacklander Ware. Since the mid-1970s, Michigan archaeologists recognized Hacklander Ware as unique in the upper Great Lakes, with decorative and technological attributes differentiating it from what ceramics are thought to be indigenous to the area and linking it to ceramics found in Middle to Late Point Peninsula contexts from southern Ontario and New York.

Braswell, Geoffrey (UC San Diego)

[155] *The Construction of K'iche'an Identity and the Problem of Ethnicity*

Some scholars have proposed that ethnicity is rooted in non-discursive habitus. But ethnicity is highly discursive, and is often imposed on subaltern groups by dominant members or factions of society. Thus, ethnicity is a construct limited to state-level societies. Rather than focus on ethnicity, archaeologists and ethnohistorians should focus on the more general concept of identity. In this paper, I consider how K'iche'an peoples of the Postclassic period constructed identity and how it was used both to promote and to resist hegemonic projects. Finally, I discuss the kinds of community and society that were made possible by K'iche'an forms of identity.

[197] *Discussant*

Braun, David (University of Cape Town), John W. K. Harris (Rutgers University), Michael Rogers (Southern Connecticut State University) and Steven J. Walker (University of Cape Town)

[29] *Applications of Digital Image Analysis to Landscape Scale Curation Behaviors in Developed Oldowan Industries*

Oldowan landscape-scale behaviors are poorly understood. Here we use digital imaging

techniques to determine levels of reduction in assemblages of single platform cores at Developed Oldowan sites. Analytical steps are detailed which support the application of digital imaging techniques to unifacial flake tool reduction models. We apply models of unifacial scraper reduction to an understanding of the concept of artifact curation and economization to a landscape scale study of the Karari Industry from the Okote Member of the Koobi Fora Formation. This analysis incorporates aspects of technological organization as well as the decision processes behind discard and transport behaviors.

Braun, David [241] see Dillian, Carolyn; **[29]** see Archer, William D.

Braun, Gregory (Department of Anthropology, University of Toronto)

[127] Late Woodland smoking pipes: technological and social practices

Fired clay smoking pipes are frequently recovered from Late Woodland settlements in Southern Ontario. Previous research has typically limited its focus to the decoration and morphology of these pipes in order to establish chronologies. My research aims to place Late Woodland smoking pipes within their cultural context by examining their manufacturing, use and discard technologies from a materials-science perspective. The results indicate that the technological choices of Late Woodland people were informed by both social and material concerns. This research also suggests that some technological practices associated with smoking pipes may have been used as vehicles for expressions of identity.

Bray, Tamara (Wayne State University)

[13] An Archaeological Perspective on the Andean Concept of Camaquen: Thinking Through the Objects of Late Precolumbian Ofrendas and Huacas

Ethnohistoric sources suggest that Andean peoples saw both people and things as animated or enlivened by a common vital force (camaquen). In approaching this subject archaeologically, I attempt to place objects and materiality at the analytical center rather than the normally privileged ethnohistoric or ethnographic data in order to see what new insights might be gained from "thinking through things." In this, I follow recent theories premised on the idea that the traditional segregation of concepts and things may hinder understanding of alternative worlds. The study focuses on the arrangements, relationality, and referentiality between and among objects found in sacred and offering contexts.

Brellas, Demetrios

[168] Analysis of Faunal Remains from Tell Abu Duwari (Ancient Mashkan-shapir)

Tell Abu Duwari is situated near an ancient watercourse of the Tigris River in Iraq. Archaeological evidence has identified it as ancient Mashkan-shapir, a single period city dating primarily to the early second millennium BC. Faunal remains from a row of buildings along a central canal suggest extensive use of both riverine and wetland resources. The aim of this analysis is to gain an understanding of the relationship between people at Tell Abu Duwari and the domestic and wild taxa present in the assemblage.

Brewington, Seth (Graduate School and University Center, CUNY)

[246] Viking-Age to Late-Norse Archaeofauna from Undir Junkarinsflotti, Faroe Islands: A Preliminary Report

Recent excavations at the site of Undir Junkarinsflotti, in the Faroe Islands, have revealed a substantial, well-preserved midden associated with a Viking Age to Late Norse structure. Preliminary faunal analysis has found evidence for a domestic economy at Undir Junkarinsflotti that differs significantly from those seen elsewhere in the Norse North Atlantic. In addition to the usual suite of domestic mammals, the Undir Junkarinsflotti assemblage suggests a substantial exploitation of local seabird populations. Fishing appears to have focused primarily on cod, the vast bulk of which seems to have been processed for export rather than on-site consumption.

Brewster, Natalie (McMaster University)

[230] Where's the Fish? An Archaeological History of Fisheries at the Dundas Island Group
This paper examines the history of fish use over a period of 5,000 years at the Dundas Island Group, on the north coast of British Columbia. Archaeological survey has revealed

that this region was heavily occupied in the past. Yet the density of fish remains, and in particular salmon, are not reflective of intensive settlements. I investigate potential causes for this observed pattern including the availability of resources, methods of procurement, preparation, and disposal, and evaluate the importance of fisheries to this region.

[288] *Discussant*

Bria, Rebecca (Vanderbilt University)

[320] *Reconstructing the Social Landscape of the Cordillera Blanca, Peru: New Data from the Santa Valley*

Despite its impressive landscape and abundance of evidence for social complexity, much of the Santa Valley highlands have remained understudied. Yet recent survey has revealed a complex mosaic of communities along the eastern segment of the valley in the Cordillera Blanca. This paper reviews this data to discuss the potential social, religious, and political nature of these communities, evidenced through architecture and other material remains. Through a consideration of the use and construction of the natural and built environment, this paper begins to reconstruct the social landscape of the Cordillera Blanca throughout the later periods of Andean prehistory.

Bridault, Anne (CNRS)

[69] *Deciphering animal resource exploitation strategies during the Late Glacial and Early Holocene in France*

Late Glacial climatic change is characterized by rapid oscillations between warm and cold episodes. Their impact on ecosystem dynamics was particularly pronounced in north-western Europe where hunters-gatherer societies experienced a succession of environmental transformations, including the recolonization of biotic communities and changing herbivore habitats. Recent zooarchaeological studies and AMS radiocarbon dates indicate that a rapid faunal transition occurred at the end of Late Glacial. How can one understand the nature of the Late Glacial/Early Holocene forager adaptations in these areas compared to the Mediterranean Basin? The presentation focuses on the faunal exploitation strategies in Northern and Eastern France.

Briggs, John [289] see *Spielmann, Katherine*

Bright, Alistair (Faculty of Archaeology, Leiden University) [240] *Co-Organizer*

Bright, Alistair [240] see *Hofman, Corinne*

Brink, James [149] see *Bousman, Britt*

Britt, Tad [200] see *Masucci, Maria A.*

Britton, Kate (Durham University), Andrew Millard (Durham University), Michael Richards (Max Planck Institute for Evolutionary Anthropology and Durham University), Olaf Nehlich (Max Planck Institute for Evolutionary Anthropology) and Vaughan Grimes (Max Planck Institute for Evolutionary Anthropology)

[117] *Mapping herd movements and migrations: preliminary investigations using multi-element isotopic analysis of modern herbivore teeth*

Modern North American herbivore teeth are utilised to assess the relationship between 'known' lifetime movements and those reconstructed through the isotopic analysis of incrementally-developed dental tissues. Variations in the isotope ratio composition of sequentially-sampled enamel ($^{87}\text{Sr}/^{86}\text{Sr}$ and $\delta^{18}\text{O}$) and dentine ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) are compared to real-life movements and seasonal dietary changes. Species include true seasonal migrants such as caribou and 'home- rangers' such as feral horse and bison. The primary objective of this study is to determine the suitability of these methods to archaeological case studies, the reliability of data produced and the resolution achievable.

Briz, Ivan, Assumpcio Vila Mitja (Institucio Milà i Fontanals-CSIC) and Jordi Estevez Escalera (Universitat Autònoma de Barcelona)

[292] *A comparison between two Yamana sites (Tierra del Fuego, Argentina): Tunel VII and*

Lanashuaia. Ethnoarchaeology for a Hunter-gatherers-fishers society

The archaeological sites Tunel VII and Lanashuaia, both located on the northern shore of the Beagle channel (Tierra del Fuego, Argentina), are compared in order to show the different working processes developed as seen in the archaeological record. From an ethnoarchaeological perspective the sites are analyzed to evidentiate the different strategies implemented by the same group (Yamana people) for the management of the used resources.

Briz, Ivan [139] see Zurro Hernandez, Debora

Broad, Brian (Binghamton University)

[179] *Hallucinogen Practice: Snuff Tablet Use patterns across Time and Space*

Hallucinogen snuff tablets often provide a medium for iconography associated with the Southern Andean Tradition, and where an abundance of research has been focused on such imagery, few technical studies have been attempted. Usewear analysis and Radiocarbon dating are employed to elucidate the practice of hallucinogen usage, which in conjunction with iconography studies, lends itself to a fuller understanding of Southern Andean socio-political relationships.

Brock, Chad [174] see Gjesfjeld, Erik W.

Brodbeck, Mark (HDR Engineering Inc)

[104] *The Dry Lake Wind Project: exploring prehistoric settlement between Silver Creek and Chevelon Creek in the Little Colorado River Valley*

The Dry Lake Wind Project is a wind energy generation facility development project located between Chevelon Creek and Silver Creek, in Navajo County, Arizona. Archaeological surveys for the project are documenting prehistoric settlement and land use in this "intermediate" zone between the two major drainages, an area that includes Washboard Wash, a tributary to Silver Creek, and the Pink Cliffs, a prominent uplift overlooking the Dry Lake basin. This paper will discuss the results of the first phase of the project with emphases on human adaptation to geological landscape and placement within a regional settlement context.

Brodie, Neil (Stanford University) and Morag Kersel (University of Toronto)

[195] *Why authenticity matters but provenience doesn't: problems with inscribed Biblical artifacts*

The authenticity of important Biblical artifacts such as the James Ossuary (allegedly an early reference to Jesus) and the Joash Inscription (said to be material proof of the existence of the second Temple) has recently become the subject of intense academic debate. This has resulted in an intensified scrutiny of Near Eastern archaeological inscriptions and an increase in questions of authenticity. Far less attention has been paid to the possible archaeological contexts of these artifacts or to the means of their discovery and trade. This paper examines why for some scholars questions of authenticity overshadow those of provenience.

[25] Discussant

Brodsky, Marcella

[153] *Settlement patterns and social complexity in the Bronze Age of La Mancha, Spain*
Settlement pattern analysis of the Bronze Age sites found during the Albacete project in the La Mancha region of southeast Spain show a segmented society on the verge of developing stratification. These sites are roughly contemporary to the Argaric and Valenciano "cultures", and show a different type of social pattern that is more egalitarian. Comparison of these La Mancha Bronze Age with its better known contemporaries can provide insight into the factors influencing the development of complex social hierarchies and the state in southeast Spain.

Brodsky, Sarah [297] see Hanna, Jonathan A.

Broitman, Bernardo (National Center for Ecological Analysis and Synthesis, UCSB) and Carola Francisca Flores-Fernandez (UCSB)

[152] *Spatial Distribution of Shellfish and Shellfish Harvesting on Santa Cruz Island: An Ecological and Archaeological Perspective*

Santa Cruz Island's shores span an oceanographic gradient from warmer to colder water. In a complementary approach between coastal archaeology and intertidal ecology we compare work done in Santa Cruz Island over the past decades. We test the null hypothesis that patterns of composition of shellfish species from the current intertidal and the shell middens nearby should be similar implying a non-selective harvesting strategy. Our results present a partial disagreement between ecologic and archaeological shellfish abundance and diversity which rejects the null hypothesis. These differences may arise from different oceanographic conditions in the past or changing harvesting strategies (selective harvesting).

Bromley, Gordon [231] see Rademaker, Kurt

Broockmann, Daniel (University of Arizona)

[128] *A Geospatial Analysis of Hydrothermal Features in Alaska and Implications for Trans-Beringian Migration*

Recent work around Ushki Lake, Kamchatka, suggests that trans-Beringian migration was influenced by hydrothermal landscape features. Through GIS, landscape features can be examined for associations with prehistoric sites dating to the time of transcontinental migration. To analyze this association a geodatabase including a digital elevation model for Alaska, hot springs, and sites reliably dated to earlier than 10,500 YBP was created. Statistical analysis shows a possible association between these ancient sites and hot springs. This implies that hot springs contributed to migration and settlement of people in Beringia, and illustrates the importance of geospatial analysis in early migration research.

Brooker, Colin [63] see Poplin, Eric C.

Brooks, Alison (George Washington University), John E. Yellen (Archeology Program, National Science Foundation) and Sarah A. Tishkoff (Department of Biology, University of Maryland)

[149] *Origins of Modern African Diversity: Archaeological and Genetic Perspectives*

The dense and spectacular archaeological record of southern Africa during the Middle Stone Age, particularly from coastal sites, has led some to argue for an origin, diversification and dispersal of modern humans from South Africa, following an early Late Pleistocene isolating event. Genetic data on archaic mtDNA lineages among the San have led to a similar conclusion. Here we present a different view, arguing for more complex patterns of interregional contact, isolation and migration, reflected both in the archaeological record of the later MSA/early LSA of eastern and central Africa and in new genetic data from African populations.

[75] Discussant

Broughton, Jack (University of Utah) and Michael D. Cannon

[100] *Evolutionary Ecology and Niche Construction Theory in Archaeology*

Evolutionary ecology (EE) is a theoretical framework that has been widely applied to problems in human evolution and prehistory. Applications range from early hominin morphology, to agriculture, to the emergence of social complexity. With a focus on how behavioral adjustments to changing socio-ecological conditions create novel selective pressures that in turn drive other changes in morphology and behavior, these applications draw on the same evolutionary logic that underlies Niche Construction Theory (NCT). We illustrate the synergies between EE and NCT with a range of empirical applications and explore how using these approaches together can advance understanding of the human past.

Broughton, Jack [214] see Byers, David A.

Brouwer, Marieka (Anthropology Graduate Student Michigan State University)

[215] *Are Mesolithic tools more standardized than Neolithic tools: Reanalysis of a Danish flint assemblage*

The commonly held view in northern Europe is that the transition from Mesolithic hunter-gatherers to Neolithic farmers resulted in reduced standardization of flint tools over time. This assumption is tested through analysis of a Danish flint tool assemblage, which was previously analyzed by Stafford (1995, 1999) and spans the Mesolithic and Neolithic periods. This study applies different statistical tests than the original analysis in order to explore assumptions concerning shifts in standardization of stone technology. Further, inferences are made regarding the nature of curated or expedient flint tools.

Brownman, David (Dept. of Anthropology), Jose M. Capriles (Washington University - St. Louis) and Juan V. Albarracin-Jordan (Fundacion Barolome de las Casas, La Paz, Bolivia)

[190] *Early Camelid Pastoralism: Current Research from the Bolivian altiplano*

Among the recent proposals regarding the origin and functioning of camelid pastoralism in the Andes are: (a) the probability of more than one center of domestication, and (b) the possibility of different management strategies. We examine these ideas from the perspective of new excavation and zooarchaeological (including aDNA) evidence from the Iroco region located on the central Bolivian Altiplano. Results show that early pastoralist economies relied in broader range of resources than previously expected, yet their social organization was structured around the breeding and keeping of domesticated camelids.

Brown, David, Byron Camino (Museo Jacinto Jijón y Caamaño, Pontificia Universidad Católica del Ecuador, Quito) and Mark D. Willis (Blanton & Associates, Austin, Texas)

[237] *All Quiet on the Western Frontier? Inka Fortresses of Western Highland Ecuador*

Observations at a series of earthwork sites along the edge of the Andean cordillera in western Cotopaxi province of Ecuador have revealed new data on the Inka occupation of their northernmost regions. These sites, which form part of a network of fortresses that marks the western boundary of Inka territory in this area, are similar in many aspects to the better-known Inka fortresses of the Pambamarca area northeast of Quito. The Cotopaxi fortresses provide information on Inka military tactics and suggest that the Caranqui peoples of northern Ecuador were not the only neighboring group that the Inkas were concerned about.

Brown, Douglas and Dana Lepofsky (Simon Fraser University)

[52] *Ancient Ground Stone Celt Production and Exchange in the Fraser Valley and Strait of Georgia, Southwestern British Columbia*

Occupational specialization and intra-regional exchange figured prominently in the ethnographic Coast Salish economy, yet archaeological correlates of these practices and their possible role in shaping Coast Salish history remain largely unexplored. We examine this issue using data that show a distribution of finished ground stone celts throughout the Coast Salish region of southwestern British Columbia and a corresponding localized concentration of celt manufacturing waste in a confined area of the region. Once established around 2800 years ago, this pattern remained stable for at least two millennia. Implications for ancient Coast Salish economic organization are considered.

Brown, Erin [89] see Millward, Sara A.

Brown, Gary and Cheryl Paddock (National Park Service)

[266] *Chacoan and Vernacular Architecture in the Animas Valley: The Role of Chaco Canyon at Aztec Ruins*

Aztec Ruins has long been considered a Chacoan outlier. The two major great houses have classic Chacoan architectural and masonry attributes, alongside vernacular architecture that is typical of the Animas Valley and Middle San Juan region. Most intriguing are attributes that are not easily categorized as either local or nonlocal, suggesting a mixed group of people participating in great house construction. Our interpretation supports

aspects of both Chacoan immigration and local emulation at Aztec. We believe that Chaco Canyon provided leadership and skilled craftsmen who collaborated with local inhabitants, unlike many outliers where emulation seems to outweigh Chacoan immigration.

Brown, Gary [2] see *Paddock, Cheryl I.*

Brown, James (Northwestern University) [55] *Discussant*

Brown, James [21] see *Kelly, John E.*

Brown, Larae [283] *Co-Organizer [283] Moderator*

Brown, Linda [61] see *Emery, Kitty F.*

Brown, M. (The University of Texas At Arlington), Jaime Awe (Belize Institute of Archaeology) and James Garber (Texas State University)

[181] *The Foundation of Social Complexity in the Belize River Valley*

Recent investigations focusing on the Preclassic in the Belize Valley have broadened our knowledge of this early landscape. Evidence suggests that communities were founded in the Early Preclassic throughout the valley, with larger more formally organized centers strategically placed on hilltops emerging during the Middle Preclassic. Extensive work at Blackman Eddy and Cahal Pech constitute the richest data sets dating to this early time period. Evidence from both sites has provided a better understanding of the role of ritual in the foundation of social complexity as well as the changing nature of public architecture.

Brown, M. Kathryn [181] see *Sullivan, Lauren A*

Brown, Timothy and Mellissa R Ruiz (University of Wisconsin)

[171] *Calixtlahuaca, Mexico 2007 Field Season. Preliminary Excavation Results*

Discussed will be the preliminary results of 2007 excavations of domestic structures and terraces at Calixtlahuaca, a Late Postclassic urban center in the Toluca Valley of central Mexico. Occupation covered the terraced slopes of Cerro Tenismo. Houses built on terraces were small with stone foundations. Many were associated with exterior stone pavements. Several houses appear to have been deliberately burned, thus some excavations contained an abundance of burnt daub. Further analysis of household data will be used to address questions regarding urbanization at Calixtlahuaca as well as the impact of the Mexica conquest of the city.

Brown Vega, Margaret (University of Illinois at Urbana-Champaign)

[83] *Ritual and Conflict During the Early Horizon and Late Intermediate Period Occupations of the Fortress of Acaray, Huaura Valley, Perú*

Evidence of ritual or ceremony within fortifications in the Andes have limited interpretations of site use and minimized the role of conflict in society. Unambiguous defensive architecture such as parapets and bastions and the presence of projectiles are well documented at the multi-component hilltop fortified site of Acaray. Yet excavations revealed little additional evidence of warfare. Elaborate offerings and intrusive features bear evidence for ritual associated with site reconstruction and use of the site. These contexts force a reconsideration of site function that accounts for communal activities of a ceremonial, military, and commemorative nature.

Brownlee, Kevin (The Manitoba Museum), Leslie Baker (Okawamithikani First Nation), Mostafa Fayek (University of Manitoba), Myra Sitchon (University of Manitoba) and S. Brooke Milne (University of Manitoba)

[145] *Looking at heritage through the eyes of the Asiniskaw Ithiniwak: Community-driven archaeology in northern Manitoba*

Physical landscapes are the medium through which heritage and oral histories are communicated by Aboriginal peoples. Traditional knowledge of areas shared by the Okawamithikani First Nation has been instrumental in identifying archaeological sites on Granville Lake. Collaborative work between scholars and this community have resulted in

the identification of quarries with one being the largest recorded quartz quarry in the western boreal forest of Canada. In addition to highlighting aspects of this project, this paper demonstrates that a much wider definition of "cultural heritage" from an Indigenous perspective should be assumed to include more than just tangible resources.

Brugge, David

[62] *Emergence of the Navajo People*

Various scenarios for the first appearance of the Navajo people in the Southwest have been proposed. Here I evaluate these in terms of currently available evidence and theories of ethnogenesis. An explanation more complex than those previously put forth seems likely, one entailing a longer period of development.

Bruhns, Karen

[59] *The Romantic Rafters Meet Utter Indifference: Ideology and Technology as Barriers to the Diffusion of Metallurgy on the Mesoamerican-Central American Frontier*

The northern Andean metallurgical tradition reached Costa Rica and Nicaragua by the middle of the first millennium C.E., but was not embraced by Mesoamerican cultures until the very end of the Classic, when metallurgical technology began to move slowly up the coast, appearing in full bloom in southern Mexico by the Early Postclassic. A combination of technological factors and the ancient strength of Mesoamerican ideological systems, which had a firm series of values already in place, stopped this movement until the Epiclassic. Only as old ideological systems began to crumble was indifference replaced by half-hearted use of metals.

Bruhns, Karen [37] see Amaroli, Paul

Bruning, Susan (Southern Methodist University)

[25] *Heritage Values, Native Americans, and the Law: Articulating Culture in the Legal Sphere*

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) ushered in a new era of heritage values management. NAGPRA's legal structure is profoundly reshaping the ways in which parties with diverse interests are, through choice or through mandate, negotiating the future of many Native American cultural items. This presentation will consider how the language of NAGPRA, as written and as interpreted, struggles to address the interests of diverse stakeholders seeking to influence the fate of objects of Native American cultural heritage. Specific examples involving Hawai'i and Alaska will further illustrate complexities inherent in this struggle.

[271] *Discussant*

Bruno, Maria (Washington University in St. Louis) and Katherine M. Moore (University of Pennsylvania)

[244] *Both Fields and Pasture: Formative Period Agro-Pastoralism on the Taraco Peninsula, Bolivia*

Using botanical and faunal data, we track the development of an integrated agro-pastoral economy on the Taraco Peninsula, Bolivia during the Formative period. The botanical assemblage is dominated by forage species suggesting that people were burning camelid dung as fuel, a practice that is common historically. Examination of patterns in ecology, richness, and diversity of these forage species suggests intensification of herding and/or farming through time. Consideration of changes in crops and weeds illuminates the potential impact of farming while assessment of camelid herd composition and demography, and the physical condition and health of individual animals sheds light on herding.

Brunswig, Robert (University of No Colorado)

[184] *GIS Modeling Colorado Paleoindian Settlement and Landscape Use Patterns*

Geographic Information Systems are a powerful tool for explanatory modeling of spatially defined data sets related to past human activities. This paper describes assembly of a Paleoindian site and isolated find data base for the state of Colorado and correlation of its cultural-spatial data with topographic and environmental map layers for long-term

settlement pattern analysis. ArcGIS modeling of Paleoindian spatial patterning at macro (state-wide/multi-regional) and meso (regional/sub-regional) scales suggests progressive expansion of initially wide-ranging and dispersed Clovis populations in Colorado's plains, foothills, and mountain terrains, with later post-Clovis populations becoming more restricted in their geographic resource ranges.

[184] Chair

Brunton, Thomas and Tina Thurston (SUNY University at Buffalo)

[264] *At the Margins of the State: Intensification and Productivity in Less Fertile Zones*
Ostensibly, "marginal" land is barely or not at all suitable for cereal agriculture, yet can be remarkably productive of other commodities. We discuss the concept of marginal land, the resources it can yield, and the value of its productive capacity to elite economies. Three case studies, in marginal regions of Early Medieval Cumbria, Denmark, and Sweden, are examined through archaeological and ethnohistorical data. Despite their shared characterization as highly marginal, rulers made significant investments in exploiting them. Interestingly, marginality can also "produce" economically and ideologically independent populations, not always conducive to state strategies for extracting wealth.

Bryant, Vaughn (Texas A & M University)

[70] *From Archaeology to CSI: Applications in Forensic Palynology*
Initial training in archaeology and botany are ideal backgrounds for pollen studies in forensics. Why is pollen a useful forensic tool for criminal investigators? The answer lies in its geographic specificity. Each plant species produces unique pollen. The distinctive ecology of an area yields a "pollen print" similar to the unique fingerprints in humans. When used as a forensic tool, pollen studies can link a weapon, vehicle, or suspect to a crime scene; determine the specific location of a crime; indicate the season when a crime occurred, and can be used decades later to solve "cold cases" once thought unsolvable.

Bryson, Reid (Center for Climatic Research)

[224] *Climatic Changes Around 5500 Bp*
Using Archaeoclimatic modeling, the role of climatic change in the human history of MESOPOTAMIA and CENTRAL ASIA will be explored. This will involve the discharge of rivers and the quality of grasslands after the domestication of the horse.

[224] Discussant

Bryson, Reid [224] see Varney, R. A.; **[214]** see Byers, David A.

Bryson, Robert (Mojave National Preserve)

[224] *The Basic Tenets and Vision of Macrophysical Paleoclimatic Modeling (Archaeoclimatology)*

R.A. Bryson's development of macrophysical paleoclimatic modeling was certainly not his first contribution to the study of how climate change has affected cultures of the past. This was, however, the first methodology that directly addressed the need for setting climate change within human temporal and geographic dimensions in order to understand whether and how changes in the environment and cultures are related. Indeed, Archaeoclimatology makes it possible to address issues related to human responses to the specifics of climate change (e.g., changes in the reliability, magnitude, or seasonality of rainfall) rather than to climate change in general.

Bubel, Shawn (University of Lethbridge)

[208] *The Effects of Windthrow on the Archaeological Record*

Floraturbation is one of the most common postdepositional processes, affecting all but the rarest of archaeological sites. The main kinds of floraturbation are windthrow, tree sway, root growth and root decay. Field research investigating windthrow (the uprooting of trees) has shown that soil type, topography, tree species and age are the most important factors of this phenomenon. Variances in these elements result in different forms of windthrow. The effect windthrow has on the archaeological record is directly linked to the type of windthrow created. Moreover, the different windthrow signatures can be used to reconstruct the ancient environment.

Buchanan, Briggs (Simon Fraser University) and Mark Collard (Simon Fraser University)

[29] *Using geometric morphometrics to assess the effects of resharpening on the shape of Paleoindian projectile points*

In this study we used geometric morphometrics to assess the effects of resharpening on Paleoindian projectile points. We tested the null hypothesis that extensive resharpening results in convergence on a similar tip shape across point types. Our alternate hypothesis states that resharpening is a technique that is culturally transmitted and therefore specific to particular populations/lineages. To evaluate these hypotheses we recorded landmarks that define the shapes of a sample of Paleoindian point types (Clovis, Folsom, and Plainview). The landmark data were subjected to Procrustean superimposition and then analyzed using multivariate statistical methods.

Buck, Caitlin E. [260] see *Froese, Duane*

Buck, Paul (Desert Research Institute) and Sachiko Sakai (University of California Santa Barbara)

[46] *Prehistoric Landuse in the Mt. Trumbull area, NW Arizona*

Intensive archaeological survey of a single 640 acre section in the Mt Trumbull area has increased the number of sites from 10 to 97 and quadrupled the number of PII structures. Testing at habitation sites has shown surprising deposit depth, provided calibrated radiocarbon dates of ~ AD 600-1170, and recovered carbonized corn cobs and kernels and a number of wild plants. New ceramic types have been found manufactured of clays from geographically dispersed areas. Many diagnostic pottery types found subsurface are not found on the surface.

Buckley, Mike [223] see *Collins, Matthew J.*

Buckmaster, Marla (Northern Michigan University) [30] Discussant**Budhwa, Rick (Crossroads Cultural Resource Management), Michael Klassen (Simon Fraser University) and Rudy Reimer (McMaster University)**

[18] *First Nations and Consulting Archaeology in BC: Emerging Trends and the Evolution of Practice*

First Nations' engagement in archaeological management in B.C. has greatly influenced archaeological practice. Increasing interaction between First Nations and archaeologists has highlighted fundamental differences between Aboriginal perspectives and legislated policy relating to cultural resource management. Aboriginal conceptions of archaeology and stewardship challenge prevailing archaeological management practices, often resulting in tension between First Nations, government agencies, and the archaeological consultants implementing heritage legislation. The relationship between First Nations and archaeologists in the "cultural resource management" context has created many problems, but the differing perspectives have also influenced emerging trends in stewardship, ethics, and the evolution of practice.

Buechler, Jeff (University of Illinois At Chicago)

[233] *Possible Social Implications of Large Fortifications in the Petexbatún Region, Guatemala*

Past and present archaeological survey of Classic Maya settlement along the escarpment in the Petexbatún region of Guatemala has revealed evidence of what appear to have been large fortifications, probably similar to hilltop fort, cliff castle, and promontory fort varieties. Cross-cultural comparison suggests that one intended function of such constructions may have been temporary refuge for rural populations during attack. If so, rough preliminary data on the construction volume, area protected, and surrounding settlement patterns may have implications for the nature, scale, and spatial extent of communal activity and perhaps identity within the region.

Bueno, Lucas (Museu de História Natural - UFMG)

[31] *Lithic Technology and Territorial Boundaries in Central Brazil*

This paper presents a review on the available data for the occupation of Central Brazil in the Early Holocene, emphasizing the variability in lithic assemblages from two regions – Minas Gerais and Tocantins State. We attempt to show that the actual picture of homogeneity is related to the methodological approaches currently used, that emphasize similarities through analyses based exclusively in formal aspects of the artifacts combined with a discourse that denies any kind of specificity. We propose the re-thinking of such homogeneity, giving attention to particularities of the local contexts and discussing the existence of territorial boundaries in Central Brazil.

Bugarin, Flordeliz (Howard University)

[40] *Embracing More Voices as Keepers of the Past: a South African Case Study*

How do we facilitate a collective interest in archaeological resources? How do we bring together competing interpretations of the past? This paper will look at the intersection between archaeologists and various interests groups. It will discuss the different understandings of the past within indigenous communities, specifically within South Africa. Some voices have been silenced by the complexity of archaeological technologies, while others have been excluded by the hierarchy of knowledge within indigenous communities themselves. The challenge for archaeologists is to incorporate different voices while maintaining the integrity of our discipline.

Buikstra, Jane (Arizona State University), Ann Stodder (University of Wisconsin--Milwaukee) and Debra Martin (Dept. Anthropology, University of Nevada, Las Vegas)

[134] *Were there Warriors in the Greater SW? A Bioarchaeological Perspective*.

Healed and perimortem trauma in human remains provide ample evidence for prehistoric violence in the Greater Southwest. But far less research has addressed the social context and embeddedness of violence in these prehistoric societies. We explore the archaeological signatures of warriors and warrior cults and examine ethnohistoric and ethnographic sources from the Southwest as a means of reconsidering the institutional and individual contexts of prehistoric violence in this region. We use bioarchaeological and funerary data to respond to the question posed in our title by developing a nuanced perspective on the embodiment of violence in the Greater Southwest.

[291] *Discussant [134] Co-Organizer*

Buikstra, Jane [177] see Miller, Katherine A.

Buikstra, Jane E. [263] see Blom, Deborah E.

Burchell, Meghan (Dept. of Anthropology, McMaster University) and Trevor Orchard (McMaster University)

[243] *Regional Perspectives on Shellfish Gathering from the Coast of British Columbia*

The application of sclerochronological techniques to bivalves recovered from prehistoric shell middens reveals patterns of shellfish gathering. The reconstruction of bivalve age classes indicates levels of harvest pressure on local clam beds that can be used to identify collection strategies ranging from casual gathering to an intensive harvest. Patterns in bivalve growth are linked to periods of resource depression, as well as conservation strategies that allowed for the long-term sustainability of shellfish resources. A comparison at the regional level shows the relationship between the variability in shellfish harvesting patterns and local cultural and environmental circumstances.

[288] *Discussant*

Burger, Joachim [256] see Bollongino, Ruth

Burger, Oskar (University of New Mexico) and David Byers (Department of Anthropology, University of Utah)

[91] *Assessing variation in butchery intensity in large zooarchaeological samples: issues of data aggregation and scale*

Butchery intensity is an important yet elusive property of zooarchaeological samples. Appropriately assessing changes in butchery intensity, as the amount of energy expended in processing a typical animal carcass, provides the opportunity to make strong theoretical and empirical connections between resource availability, ecology, and human behavior. The major limitation is the development of an appropriate measure of intensity that can be generalized across a wide range of assemblages with unique taphonomic histories and documentation protocols. Here we develop a potential macroscopic measure of butchery intensity and evaluate its utility with computer simulations and empirical testing in two large zooarchaeological samples.

Burger, Richard (Yale University), Kurt Rademaker (University of Maine), Laure Dussubieux (Field Museum of Natural History) and Michael Glascock (University of Missouri)

[231] *Obsidian Procurement at Quebrada Jaguay, Peru: A Study of Coast-Highland Contacts during the Terminal Pleistocene*

Instrumental Neutron Activation Analysis (INAA) and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) techniques show that obsidian debitage from Quebrada Jaguay came from the large Alca source, located some 155 km from Quebrada Jaguay in the upper Cotahuasi Valley. This evidence of early coast-highland contact has stimulated additional work in the laboratory and field. At least four spatially patterned, chemically distinct Alca sub-groups have been defined, raising the possibility of pin-pointing the specific deposits at the Alca source exploited in the Terminal Pleistocene, and a new obsidian deposit was identified that may be one area of early obsidian procurement.

[73] *Discussant*

Burger, Richard L. [274] see *Turner, Bethany L.*

Burke, Adrian (Université de Montréal)

[189] *Chaîne Opératoire and the Initial Stages of Reduction at Three Quarries from Northeastern North America*

Initial reduction stages, beginning with extraction, testing, and cortex removal, are presented for three late prehistoric quarries and associated lithic workshops in Quebec and New Brunswick, Canada. The methodology and theory of chaîne opératoire is applied to these three raw material sources in order to compare and contrast them. Technological outcomes appear to be the product of pragmatic decisions based largely on raw material constraints, most clearly visible at the quarry sources themselves, as well as aspects related to raw material economy visible at a larger regional scale.

Burks, Jarrod [54] see *Hargrave, Michael L.*; [50] see *Nolan, Kevin C.*

Burnett, Paul (SWCA) and Erik Otarola-Castillo (Iowa State University)

[95] *Knapping on an Idea: Gauging Experimental and Archaeological Projectile Point Morphological Variability using Geometric Morphometrics*

Although a large body of literature is dedicated to the quantitative classification of projectile points based on form, few studies have attempted to measure the source of that variation. This study uses Geometric Morphometrics to quantify the variability in the shape of multiple Elko projectile points produced by four experienced individuals. Results from this analysis are used in conjunction with toolstone attributes to explore the variability in Late Archaic projectile points from the Kaplan-Hoover bison kill site in eastern Colorado. Implications of this research are informative with regard to empirically defining communal hunting behavior.

Burnett, Paul [308] see *Kennedy, John D.*

Burnett, Richard L. [109] see *Terry, Richard E.*

Burnside, Carla (Malheur National Wildlife Refuge)

[1] *Moving Beyond Consultation*

This paper will explore how that the Pacific Region of the US Fish and Wildlife Service has

moved beyond compliance consultation with Native American Tribes to collaboration. This collaborative process has led to a greater understanding of agency and tribal needs while broadening interactions. Examples from three wildlife refuges will be used to illustrate the benefits of this kind of collaboration. These include re-interment facilities at two refuges, interpretive and educational projects, and construction of a traditional plank house. All these forms of collaboration have strengthened relationships between the agency and Tribes.

Burton, James (University of Wisconsin) and T. Douglas Price (University of Wisconsin)

[35] *Oxygen isotopes and proveniencing humans*

The study of oxygen isotopes in dental enamel for proveniencing prehistoric humans remains experimental. The application of oxygen isotopes to infer the geographic origins of humans in ancient Mesoamerica provides a good example. Our investigations of carbonate 18/16 O in human tooth enamel from numerous locations in Mexico, Guatemala, and elsewhere show local variation of several permil. This range is comparable in magnitude to the variation among different locations and makes the "sourcing" of human remains difficult. We consider several case studies and discuss means to resolve some of these problems.

[35] *Discussant*

Burton, John (DePaul University) and Jane Baxter (DePaul University)

[146] *Reassessing "Terra Incognita": Archaeological Evidence of Post-Emancipation Lifeways at Polly Hill Plantation, The Bahamas*

Bahamian Historical Archaeology has emphasized slavery and the retention of African practices and values. Far less attention has been directed towards the long-term changes in populations after emancipation, particularly those populations away from Nassau. This paper focuses on post-emancipation lifeways at Polly Hill Plantation, San Salvador, The Bahamas, which has yielded abundant information about the transitioning to post-plantation lifeways, including changes in landscape use and access to goods from broader markets. These lines of evidence are used to explore the changes that took place in emancipated communities as former slaves developed new economic strategies and collective identities after slavery.

Bush, Jessica (University of Montana)

[308] *Prehistoric People in the Bear Paw Mountains*

During the summer of 2007, archaeologists from the University of Montana excavated site 24HC1215, an archaic period camp. This paper will describe the excavation and analyses of artifacts and faunal remains. Conclusions will focus on prehistoric resource use and population movements on the Plains.

Bush, Kelly (Equinox Research and Consulting International Inc. (ERCI))

[172] *The Analysis and Interpretation of an Unusual and Small Shell Midden Feature on Whidbey Island, Northwestern Washington*

In a small residential compliance project on the eastern shores of Whidbey Island in Washington State, an interesting feature uncommon in shell midden sites was encountered. A rock lined pit with layers of branches dated to 340 – 390 BP placed use of the upper portions of the feature in the protohistoric period. With continued excavation and analysis of this feature we hope to answer the questions of what was being processed, what role did the branches play and how did this activity reflect trends in the northern Puget Sound Basin at that time.

Bush, Kelly [60] see *Miss, Christian J.*

Bush, Susan [173] see *Trammell, Joshua B.*

Bushozi, Pastory (University of Alberta)

[123] *Middle Stone Age technology and hunting behavior in southern Tanzania*

The Middle Stone Age in Africa sees a number of social and technological innovations, which are associated with the appearance of the first anatomically modern human

populations. A notable development is the invention of composite tools, by hafting projectile points on to organic shafts. Points were standardized in shape and size using prepared core techniques and/or retouching flakes after removal from a core. This poster describes Middle Stone Age point technology and hunting strategies from the Iringa Region in southern Tanzania, as well as from the Lake Eyasi basin in the north.

Butler, Brian [72] see Cobb, Charles R.

Butler, Stephanie [122] see Schlenker, Amy E.

Butler, Virginia (Portland State University)

[107] *The Relationship between Relic Hunters and Professional Archaeologists on the Lower Columbia River in the early 20th Century*

The extent of relic hunting that occurred on the lower Columbia River in the first half of the 20th century is staggering. While current ethics condemn such action, many professionals working at the time supported relic hunter organizations, even while individuals were amassing large personal collections and looting archaeological sites. The entangled relationship between professionals and so-called amateurs is one our profession tends to downplay, yet such "dirty secrets" are important to review since they likely contribute to lingering public perception that archaeology is artifact collecting, and explain why some Native Americans and First Nations people still mistrust professional archaeology.

[230] *Discussant*

Butler, Virginia [230] see Smith, Ross E.

Butler, Virginia L. [122] see Wright, Wendy Ann

Buttles, Palma (Carnegie Mellon University/Software Engineering Institute) and Fred Valdez (The University of Texas at Austin)

[56] *Maya Ceramics: Typology, Analysis, and the Contributions of Jeremy Sabloff*

The role of ceramic analysis in Maya studies remains a critical aspect of every field project. With the introduction of the type:variety-mode method of ceramic analysis in the Maya area, a system that provided for more comparative data was set into use. Jeremy Sabloff was among the first analysts to utilize the "new" system with great success. A brief history of the type:variety-mode method, the initial applications, and Sabloff's role and related publications are discussed in the significant developments of Maya ceramic analysis.

Button, Seth (University of Michigan)

[161] *Quantifying inter-site economic variability in Neolithic Cyprus*

While we have begun to document variation among Neolithic sites on Cyprus, we are still a long way from understanding it. This paper examines relationships among economically important variables—the size and geographical situation of sites, aspects of land use, animal husbandry, resource procurement, tool production, food processing, and storage—which can be to some degree quantified and subjected to statistical analysis. Such analysis demonstrates a wider range of economic strategies than has generally been attributed to early village societies in this part of the eastern Mediterranean. These strategies responded to both ecological and social pressures.

Buvit, Ian [275] Co-Organizer [245] Co-Organizer; [245] see Terry, Karisa

Buxeda i Garrigós, Jaume [51] see Inanez, Javier G.

Buzon, Michele (Purdue University), Antonio Simonetti (University of Alberta), Christina Conlee (Texas State University, San Marcos) and Robert Creaser (University of Alberta)

[274] *An investigation of human migration and burial practices in the Nasca region using strontium isotope analysis*

We examine the evidence for human migration using strontium isotope analysis and burial practices in the Nasca region using data from two archaeological sites, La Tiza and Pajonal

Alto. Modern and archaeological faunal remains are used to determine the local $^{87}\text{Sr}/^{86}\text{Sr}$ signature. The burial sample includes adults of both sexes and juveniles, as well as two likely decapitated males. Analyses suggest that some of these individuals may not have been from the local area. These results offer important new strontium isotope data from Nasca and provide information about population movement, decapitation and trophy head taking practices in the region.

Buzon, Michele [274] see Andrushko, Valerie A.

Byerly, Ryan, Andrew Boehm (Department of Anthropology, Southern Methodist University), Benjamin Schoville (Department of Anthropology, Arizona State University) and Erik Otarola-Castillo (Department of Anthropology, Iowa State University)

[95] *Employing Geometric Morphometrics to Assess Morphologic Variability in Butchery Tools*

Stone tool edge-wear analysis can relay important information regarding implement operation and employment, each of which is useful for elucidating site-use. However, differences in the edge morphology of similar tools used for analogous activities may deviate depending on raw material, as variability in quality can potentially affect a stone tool's effectiveness and overall use-life. Applying Geometric Morphometrics, this study quantifies the morphological variability between unmodified flake tools made of multiple raw materials, after use in various stages of experimental butchery, to account for how these factors may indeed inform on aspects of prehistoric behavior as inferred from the archaeological record.

Byers, David (University of Utah), Bill Eckerle (Western GeoArch), Jack Broughton (University of Utah) and Reid Bryson (University of Wisconsin)

[214] *Holocene Seasonality and Artiodactyl Population Histories in Western North America*
We test a hypothesis that the seasonality of temperature and precipitation conditioned the population densities of artiodactyls across the Holocene of western North America. We use a climate simulation to derive trans-Holocene indices of intra-annual temperature range, summer precipitation, and winter precipitation. These indices are arrayed against a paleontological record of fecal pellet densities, and archaeological records of artiodactyl bone counts and hunting tools. Each of these records correlate with the seasonality indices and suggest that artiodactyls occurred in low densities from the terminal Pleistocene through the middle Holocene, while substantial increases occurred during equable, summer-wet periods of the late Holocene.

Byers, David [91] see Burger, Oskar

Byock, Jesse (University of California, Los Angeles)

[28] *Viking Sites in Iceland: Introduction to the Mosfell Archaeological Project*

As director of the Mosfell Archaeological Project (MAP), I will introduce MAP's recent findings in Iceland. MAP is a major North Atlantic archaeological project, excavating Viking Age sites. Interdisciplinary and international, MAP employs the tools of archaeology, history, anthropology, forensics, environmental sciences, and saga studies to construct a picture of habitation and environmental change. The Mosfell Valley, the surrounding highlands, and the lowland coastal areas are a valley system. Our goal is to unearth the prehistory and early history of this Viking Age landscape. Currently we are excavating the chieftain's longhouse, a stave church, and pagan and Christian burials.

Byock, Jesse [28] see Warmlander, Sebastian

Byrd, Brian and Andrew Garrard (Institute of Archaeology, UCL)

[154] *Discerning Forms: Late Pleistocene Lithic Assemblages in the Arid Azraq Basin, Jordan*

The Late Pleistocene in the Levant was a period of unprecedented change in climate, technology, and adaptive strategies. Using data from a series of Epipaleolithic sites in the Azraq Basin on the arid fringe of the Fertile Crescent, we explore diachronic trends in lithic

production, pattern variation in microlithic forms, and implications for regional settlement structure. We suggest that this landscape was used by diverse hunter-gatherer populations with varied regional territories, and that springs and oasis served as both as short-term stop-over points for arid zone populations and as magnet localities for seasonal aggregations.

Byrnes, Allison (Mercyhurst College, Erie, PA)

[163] *Lithic Technology and Site Use at the Scarem-Kramer Site, a Monongahela Settlement in Southwestern Pennsylvania*

The Scarem-Kramer site in Washington County, Pennsylvania, is a Scarem phase Monongahela village consisting of a large doughnut-shaped midden replete with artifacts associated with the occupation of at least three prehistoric structures. The analysis of the lithic assemblage recovered from the site was oriented toward identifying functionally specific tool manufacture and use areas within the village, and toward achieving an understanding of tool production strategies employed by its inhabitants. If possible, diagnostic artifact styles and raw material use will assist in inferring the nature of social and geographic relationships in which the Monongahela may have engaged.

Cabrera, Martha [178] see *Ochatoma Paravicino, Jose*

Cabrera, Rubén (INAH-ZAT Teotihuacan)

[150] *Los teotihuacanos tambien practicaron el sacrificio humano a gran escala.* Excavaciones recientes en Teotihuacán evidencian el sacrificio humano, datos que contradicen lo que se creía de su población, considerada teocrática y pacifista. La inmolación de personajes humanos se relacionaba con fines rituales, también con el calendario y el cosmos, como es el caso de los detectados en el Templo de la Serpiente Emplumada, colocados hacia los puntos cardinales y en los intermedios formaron grupos de 4, 8, 9, 18 y 20 individuos. Existe evidencia de inhumación de niños, relacionados con la fertilidad, lluvia y buenas cosechas. Haré la presentación de esta nueva información y se discutirá su significado simbólico.

Cabrera Castro, Ruben [180] see *Fukuhara, Hironori*

Cain, Chester (Central Texas College)

[204] *Opening the Kraal's Gate to the Local Economy of the Shashe-Limpopo Polities, Southern Africa*

For many decades the research on the complex societies of the Shashe-Limpopo Confluence have relied on a few excavations and institutions. New researchers with new perspectives now addressing the nature and development of these cultures. This change has included how faunal remains are studied and interpreted. I will report on my recent zooarchaeological analysis of an assemblage from the site of K2 and on other recent studies, and I will identify ways in which a more fine grained analysis of the food production system will illuminate better how dynamic these cultures were.

Calderari, Milena [208] see *Kligmann, Debora M.*

Caldwell, Megan (University of Manitoba)

[230] *Fish traps and shell middens : Examining the role of fish traps in Comox Harbour, British Columbia, Canada*

Technological intensification accompanied the increase in reliance on fish resources on the Northwest Coast of North America, and fish traps in particular provided a means for mass harvest. Fish remains from shell midden deposits adjacent to wooden-stake fish traps in Comox Harbour, British Columbia were analysed to interpret changes in fishing practices (targeted species) over time, and associated with changes previously recorded in trap structure. A fuller understanding of fish trap use is reached through the incorporation of traditional knowledge from members of the Comox Band.

Caljean, Katie [200] see *Masucci, Maria A.*

Callaghan, Michael (Vanderbilt University)

[16] *Problems with "Prestige Goods": Inalienable Possessions and Polychrome Pottery in the Holmul Region, Guatemala*

The elite exchange of polychrome pottery in the Maya area formed an integral part of intersite alliance building. Previous studies of stylistic and compositional variables suggest a number of polychrome distribution networks existed during the Late Classic period. However, archaeologists have been reticent to classify these networks separately or collectively as traditional prestige goods systems. This paper discusses problems with applying the prestige goods model to understand ancient Maya polychrome production and consumption patterns. The application of the concept of "Inalienable Possessions" will be discussed as a viable alternative using pottery from the Holmul Region, Guatemala.

[16] *Co-Organizer*

Callum, Kathy [306] see *Williams, Scott S.*

Cameron, Catherine (University of Colorado)

[175] *Advances in Southwestern Migration Studies*

R.J. Matson's *The Origins of Southwestern Agriculture*, published in 1991, focused attention on the spread of agriculture into the Southwest and especially population movements involved in such spreads. He was at the forefront of what has become a wave of studies of ancient migration, including methods of identifying migration in the archaeological record. This paper addresses the current state of migration studies in the Southwest, specifically recent theoretical and methodological advances. One of the most interesting developments in migration studies has been the use of multiple sources of data from all four sub-disciplines of Anthropology.

[2] see *Hurst, Winston*

Camino, Byron [237] see *Brown, David O.*

Camp, Beth and Jesse Ballenger (Statistical Research, Inc.)

[304] *Trends in Lithic Technologies During the Forager-to-Farmer Transition: A View from Queen Creek, South-Central Arizona*

The lithic technological consequences of the forager-to-farmer transition are profound in broad, theoretical terms, but are sometimes elusive in archaeological terms. More than 15,000 flaked, battered, and ground stone specimens are reported from the US 60 project area. This paper describes diachronic changes and consistency evident in the collection, and discusses how these trends contribute to our understanding of land-use, resource intensification, and interaction during this important interval of Southwest prehistory.

Campbell, J. (Mercyhurst College), F. J. Vento (Mercyhurst Archaeological Institute/Mercyhurst College), J. M. Adovasio (Mercyhurst Archaeological Institute/Mercyhurst College) and K. M. Gallup (Mercyhurst Archaeological Institute/Mercyhurst College)

[305] *Reinterpretation of the Molluscan Fauna of Meadowcroft Rockshelter (36Wh297) in Relation to Holocene Millennial-Scale Climate Variation*

Recent research on Holocene millennial-scale climate change in the northeastern U.S. allows refinement of the molluscan faunal record recovered from Meadowcroft Rockshelter in southwestern Pennsylvania. Dominant land snails in all strata suggest a stable moist microclimate surrounding the rockshelter, but differential frequencies of non-dominant species adapted to dryer habitats match time intervals when regional climate was allegedly dryer. Meadowcroft Strata III and IV present higher than expected numbers of *Stenotrema hirsutum* and *Stenotrema fraternum* (dry, open forest species), which agree with findings of other regional analyses suggesting that a marked warm-dry climatic episode occurred between 4200-3000 BP.

Campbell, Jennifer (Department of Anthropology)

[318] *The use of Three Dimensional Modeling to Understand Architectural Change and Adaptive Reuse of Caravanserais Structures in Pakistan*

This paper discusses the value of three dimensional modeling in the analysis of standing

architecture, particularly, the study of the adaptive reuse of space. Structural modifications, such as moving a doorway or adding a story, can dramatically alter the use of a structure. Three dimensional modeling allows these changes to be tracked in a virtual environment, through interaction with this environment we attempt to address how alterations affect a user's experience of a structure. Though this methodological approach is explored through the example of a Mughal period caravanserai from the North West Frontier Province, Pakistan, it has global applicability.

Campbell, Roberto (University of Pittsburgh)

[262] *Contact situations: assessing change, continuity, and resistance in 12th-18th century Araucanía (Southern Chile).*

The processes of cultural change and continuity are an important issue in Anthropology, especially when they relate to contact situations. Classic approaches however, often emphasize only one or the other. In this paper I demonstrate the coexistence of differential rhythms, and that persistence sometimes implies change. The use of archaeological and ethnohistorical evidence will help to illustrate those processes along 4 axes: economy and subsistence, settlement and demography, politics, and identity. This paper will also discuss how methodological, theoretical, and ideological drawbacks make it difficult to place contact situations in their historical and social context.

Campbell, Roderick (Institute for the Study of the Ancient World, NYU)

[106] *Shang Sources of Power: Towards a Networks and Boundaries Approach to Early Complex Polities*

Despite the current consensus concerning the desirability of a shift away from typological debate and toward the functioning of early polities, the current debates over the presence, absence and ubiquity of city-states versus territorial states returns the focus to classification. Based on a critical reformulation of Mann's work on networks of social power, I propose a "networks and boundaries" approach to investigating early complex polities illustrated with the example of Shang China. I will show how this approach resolves debates concerning the nature of the Shang polity with a more nuanced understanding of its practical, material and discursive networks.

Campbell, Sarah (Western Washington University)

[60] *Geomorphological Outliers; Artifacts of Shifting Ground?*

That there were extensive changes in relative sea level in Holocene Puget Sound is unquestionable; yet reconstruction of local events and their impacts on human occupation is just beginning. Coastal sites in Northern Puget Sound that suffered paleo-erosional events consequent to rapid local change can contribute to understanding tectonic and sea level histories but may not be investigated because of small size and "poor" site locations. I discuss the implications of areally small but functionally diverse deposits on narrow terrace remnants on steep slopes, and deposits that incorporate cultural material in colluvial deposits with no apparent upland sources.

Camps, Marta (George Washington University)

[269] *Knot-tying as evidence of modern behavior*

This paper examines the African fossil record after the last mutation in FOXP2, ca. 120,000 BP and shows how two different cases can be made for the sudden emergence of knots: small size of points and use of perforated shells as ornaments. It demonstrates how the techniques involved in throwing such points, and those to safely tie socially valuable adornments must involve reliable knots. The paper also predicts that no tying behaviors will be found in hominids without the appropriate PDA+ mental grammars, or for that matter other animals. The latter prediction is directly confirmed in the animal behavior.

Canal, Cecilia (University of British Columbia), Brian Chisholm (University of British Columbia) and Michael Blake (University of British Columbia)

[218] *Maize, Beer, and Rats: Is Maize Stalk Beer Consumption Isotopically Visible in Bones?*

The carbon isotope signature in bone resulting from maize consumption is markedly different depending on whether maize is eaten directly as a food or converted to alcohol

before consumption. Rats were fed a diet including maize stalk beer to see if this would elevate their stable carbon isotope ratios as compared with rats on a non-maize diet. As expected, we see differences in the visibility of maize stalk beer consumption in the sample of bone collagen vs. bone apatite. This result has significant implications for studying maize beer consumption in ancient human populations.

Cañarte, Pablo [37] see *Rivera, Mario A.*

Cancino, Ignacio

[83] *Use of Marginal Agricultural Lands In The Viru Valley, Peru During The Early Intermediate Period*

An analysis of the use of marginal agricultural lands in the Viru Valley, north coast of Peru, is presented. The focus of the analysis is on the types of soils and geomorphic processes as well as on the irrigation system and the relative chronology associated with these lands. The marginal lands are located in the Queneto Quebrada, at the upper part or origin of the plains in the Viru Valley, near dozens of structures of several periods. The chronological position of the agricultural lands is discussed using the geomorphic and cultural data associated with these lands.

Cannon, Aubrey (McMaster University), Camilla Speller (Simon Fraser University) and Dongya Yang (Simon Fraser University)

[230] *Site-Specific Salmon Fisheries on the Central Coast of British Columbia*

The results of aDNA analysis show often subtle but clear distinctions among salmon fisheries at village sites within and between local areas of the central coast. Patterns are attributable mainly to local species availability, though the implications of off-site harvest and processing bear consideration. Archaeological recovery methods also have a demonstrable effect on species profiles. A more fundamental emphasis on site-specific marine resources is evident locally and throughout the Northwest Coast. Regional economies appear to be built on specific localities of production, a pattern which has implications for responses to resource fluctuations, intensification, and long-term macro-regional trends.

[256] *Discussant [230] Co-Organizer*

Cannon, Aubrey [130] see *De Schiffart, Nicole J.*; [256] see *Yang, Dongya*; [219] see *MacDonald, Brandi Lee*

Cannon, Laura and Carol Schultze (UCLA)

[58] *Socio-Cultural Complexity in Formative Puno Bay, Lake Titicaca Basin, Peru: Evidence from the Tiwanaku Expansion*

This paper reports survey and excavation from the 100 km² area surrounding Isla Esteves, the leading Tiwanaku settlement in the Northern Basin. Evidence from across the Southern Andes shows Tiwanaku colonization to have been directed toward areas of cultural complexity and / or ecological complementarity. In Puno bay, localized geological resources fostered innovative silver and andesite production technologies, alongside rich agrarian and lacustrine resources. Excavated contexts show political complexity through the association of ritual, corporate architecture, occupational specialization, and metal artifacts during the Middle Formative.

Cannon, Michael D. [100] see *Broughton, Jack M.*

Cannon, Mike (SWCA Environmental Consultants) and Chet Walker (Archaeo-Geophysical Associates)

[3] *Remote Sensing and Great Basin Hunter-Gatherer Archaeology*

Magnetometry, magnetic susceptibility, and conductivity data were collected from five late Holocene archaeological sites in the Little Boulder Basin, northern Nevada. The geophysical data were then ground-truthed through manual excavation and mechanical stripping of surface sediments. The goal of the remote sensing work was to locate buried thermal features and activity areas in order to improve the efficiency and effectiveness of data recovery excavations. Project results indicate that remote sensing can play an

important role in research on, and management of, the ephemeral open sites that are so common in the prehistoric archaeological record of the Great Basin.

Cano, Asunción [231] see *Perry, Linda*

Canuto, Marcello (Yale University) [233] *Discussant*

Canuto, Marcello A. [59] see *Bell, Ellen E.*

Cap, Bernadette (University of Wisconsin-Madison)

[302] *Maya Spaces and Public Places: A Microscopic View of a Late Classic Plaza at Chan, Belize*

Examination of plazas within Maya centers has the potential to uncover new information about the use of "empty" space. In order to understand how plaza space was used in the largest architectural group at the Maya site of Chan, broad scale excavations took place in the site center's West Plaza. Multiple lines of evidence, including architectural features and macro- and microartifacts, are presented to suggest that one function of the West Plaza was for ritual activities. Microartifact analysis plays an important role in this interpretation because it revealed artifact types and patterns not seen with other data.

Capo, Rosemary [190] see *Olsen, Sandra L.*

Capriata Estrada, Camila and Sarah J. Abraham (University of California, Santa Barbara)

[298] *Developing of a New Methodology for in situ Groundstone Analysis: An Exploratory Study at Pulapuco, Peru*

This paper presents the results of a surface groundstone survey at the late period site of Pulapuco in southern highland Peru. Few studies have focused on these artifacts in the Andes and analysis is often restricted to general observations. In order to study the large quantity of groundstone at Pulapuco, a methodology was developed to record morphological and spatial data. Data from 500 field specimens will be presented and compared to those recovered from excavation. Together, these lines of evidence contribute valuable insight into economic activities at Pulapuco and demonstrate the potential value of surface groundstone in archaeological investigation.

Capriata Estrada, Camila [88] see *Edwards, Matt*

Capriles, Jose (Washington University), Alejandra Domic (Saint Louis University) and Katherine Moore (University of Pennsylvania)

[244] *Integrating Ecology and Economy: Zooarchaeology of the Taraco Peninsula - Bolivia*
Sites of the Taraco Peninsula in the southern Lake Titicaca basin provide a detailed record of adaptation to lake edge wetlands, pastures, and cultivated fields. Bones indicate that pastoralism, fishing, and hunting were specialized and intensified activities. We present a large dataset in which we estimate the importance of aquatic resources, particularly fish, compared to the more obvious production of large mammals during the Formative Period (1500 B.C. - A.D. 400) and the Middle Horizon (A.D. 400-1100). We examine the interplay between ecological processes and economic adaptation and modification that human societies had over time on the Lake Titicaca Basin.

Capriles, Jose M. [190] see *Browman, David L.*

Carbajal, Barbara [88] see *Baitzel, Sarah I.*

Carballo, David (University of West Georgia) and Claudia Garcia-Des Lauriers (University of Nevada, Las Vegas)

[180] *Teotihuacan State Expansion and Political Meddling Abroad Viewed from the Moon Pyramid and Recent Research Outside of the City.*

Our understanding of the monumental growth of Teotihuacan, the foreigners and foreign resources that made their way to the city, and the social impacts of Teotihuacano

urbanization, trade, and political expansion has been enhanced by recent investigations at the Moon Pyramid and elsewhere within the city, as well as in neighboring regions of Mesoamerica. We focus on the implications of this research for refining current models concerning the tempo and nature of state formation, expansion, and influence, placing particular emphasis on Teotihuacan's core in the central highlands and connections to the Maya region.

Carballo Marina, Flavia [118] see Belardi, Juan Bautista

Card, Jeb (Tulane University)

[262] *Ethnogenesis in Colonial San Salvador: Ceramic Evidence from Ciudad Vieja, El Salvador*

Immediate post-contact changes in ceramic production and consumption by Mesoamerican inhabitants of early sixteenth-century San Salvador are evidence for early sixteenth-century indigenous ethnogenesis within the Spanish Empire. Highly localized intrasite and household ceramic production gave way to a new community mode formed during the first generation of Spanish colonization of Central America. The creation of a hybrid serving vessel was also a significant part of this new community mode, and in comparison with similar cases in North America, suggests a relationship between involuntary migration and rapid culture change. This evidence suggests a model of subculture ethnogenesis within colonial Mesoamerica.

Cardinal, J. Scott [8] see Schmitt, Victoria A

Cardoso, João Luís [139] see Detry, Cleia

Carlock, Bradley [243] see Peacock, Evan

Carlson, Catherine (Simon Fraser University)

[68] *Foodways of Fur Traders on the Northern Frontier of the Columbia District, 1821-1842, on the British Columbia Plateau*

Thompson's River Post on the Plateau of British Columbia was the northern-most trading post for the Columbia District. Brigade trails linked this post to Hudson Bay Company headquarters in the south. The existence of the trading post at the end of the supply line was tenuous and reliant upon the support of the local Secwepemc people. Excavations at the site of the post recovered faunal remains and artifacts that indicate that the fur traders subsisted principally on wild foods, including salmon and game. Their diet is largely indistinguishable from that of the indigenous peoples in the adjacent village site.

Carlson, Eric, Anna Prentiss (University of Montana), Art Adolph (Stl'atl'imx First Nation) and Ian Kuijt (University of Notre Dame)

[172] *Visually Reconstructing Prehistoric Life in the Middle Fraser Canyon, British Columbia: The Process*

The Middle Fraser Canyon of southern British Columbia provides a unique setting to apply ethnoarchaeological studies to visual interpretations of the past. A collaborative effort between representatives of the Stl'atl'imx First Nation and archaeologists from the University of Montana and University of Notre Dame has generated a series of illustrations reconstructing complex hunter-gatherer sites and prehistoric lifeways from Keatley Creek, Bridge River, and the 6 Mile Rapids fishing grounds. This poster illustrates significant benefits of this collaboration for increasing communication between archaeologists, First Nations people and the educated general public.

Carlson, Eric [172] see Crossland, Nicole A.

Carlson, Keith (University of Saskatchewan)

[52] *Event and Migration in Coast Salish Settlement Patterns and Identity*

Using oral histories, this poster challenges assumptions about Coast Salish settlement patterns by revealing the routes of several waves of internal migrations that effectively caused the "re-settlement" of the lower Fraser watershed generations before non-Native

settlement was a contributing force in shaping Aboriginal relationships with the land.

Carlson, Lisabeth

[63] *Specialized Activity Sites: Linking the Prehistoric Inhabitants of the Bahamian Archipelago and the Greater Antilles*

A specialized site is one where a single, focused activity occurred. Sometimes the effort was for local consumption but often specialized sites produced items specifically for trade. Excavations over the past 15 years in the Turks and Caicos Islands have uncovered several specialized activity sites where items were harvested and prepared for transport and ultimate use elsewhere. Turks and Caicos economic resources included processed turtle and conch meat, red jewel box shell and white conch shell beads, salt, and perhaps multi-colored feathers. This paper explores the relationship between these resource rich islands and the population centers of the Greater Antilles.

Carlson, Roy (Simon Fraser University)

[175] *The Mimbres Kachina Cult Revisited*

Recent studies of the Kachina cult of the puebloan Southwest have tended to favor a model of the introduction of this cult during late Pueblo III/early Pueblo IV times. This model ignores the presence of Kachina ideology and imagery in the earlier Mimbres culture of southwest New Mexico. In this paper the Mimbres data are reviewed and comparisons made that support a model of Mimbres ancestry of the Kachinas.

Carmean, Kelli (Eastern Kentucky University)

[56] *Limestone and Meaning in the Stone Houses of Sayil, Yucatan, Mexico*

In the 1980s, Jeremy Sabloff (with Gair Tourtellot), undertook a settlement pattern survey of Sayil, Yucatan, Mexico. Thousands of basal platforms, foundation braces, and vaulted stone buildings later, the team birthed one of the then most complete settlement maps of Yucatec sites. In addition to a summary of that project, this paper takes another look at Sayil's residential architecture—vaulted stone buildings in particular—in an effort to understand the varying quality and conceptual meaning of the stone itself. Such a combined ecological/cultural perspective remains true to Jerry's broad and inclusive approach to all things archaeological.

Caroll, Brad [133] see Fox, Michael R.

Carpenter, John (Instituto Nacional De Antropología E Historia), Guadalupe Sanchez (INAH) and Julio Vicente (Escuela Nacional de Antropología e Historia (ENAH))

[185] *Modeling Mesoamerican-Southwest Interaction in Northwest Mexico: The Cahitan Connection Redux*

The material and ideological components of Mesoamerican origin found in northern Mexico and the American Southwest have long been a source of intrigue and speculation. Utilizing recent data derived primarily from the Proyecto Arqueológico Norte de Sinaloa, we re-examine Carpenter's (1994) proposal that Cahitan-speaking peoples occupied a spatially and culturally intermediate position and, thus, may have provided a continuous link between Mesoamerica/West Mexico and the prehistoric peoples of the American Southwest.

[32] Co-Organizer

Carpenter, John [185] see Vicente, Julio C.; **[32]** see Sanchez Miranda, Guadalupe

Carper, Raven (UC Davis)

[57] *A model for all seasons: interpreting the middle Holocene record of Mendoza, Argentina*

Relative to other periods, there are very few recorded sites of middle Holocene age in Mendoza Province, Argentina. Rather than population diminution or regional abandonment triggered by climatic conditions, however, this may reflect changing patterns of land use. This paper tests archaeological data against the predictions of Charnov's marginal value theorem and a model of lithic raw material procurement in an attempt to better understand

both the small number of middle Holocene sites in Mendoza and more general aspects of human behavioral responses to large-scale climatic events.

[57] Chair

Carr, Dillon (Michigan State University)

[30] *Searching for a 'Place' to Call Home: Colonization of the western Great Lakes Landscape*

Situating cultural knowledge and practices within a known physical landscape is a common trait among many hunter-gatherer communities, and operate as key strategies to maintain traditional environmental knowledge(s) across generations. However, among populations colonizing unfamiliar regions such practices have become uprooted from the physical landscape. This paper assess the suggestion that elements of the western Great Lakes Paleoindian archaeological record may be interpreted as part of alternative strategies serving to translocate cultural practices during periods of colonization. Such approaches would help ensure the successful learning, and by extension the successful colonization, of new frontiers by Paleoindians.

Carr, Robert (Archaeological and Historical Conservancy)

[148] *The Miami Circles and the Prehistoric Settlement System of the Miami River*
Recent archaeological investigations in downtown Miami have uncovered evidence demonstrating the extent and chronology of prehistoric habitation and mortuary sites on both sides of the Miami River. This site is the largest prehistoric complex in Southeast Florida encompassing an area of over 15,000 square meters. Characterized by constructed mounds, solution hole mortuaries, and a large village; the site was occupied for at least 2500 years and was known as the town of Tequesta during the Spanish Period. Also discussed are the two Miami Circles, characterized by postholes and basins cut into the bedrock.

Carr, Robert [63] see Schaffer, William C

Carr, Robert S. [63] see Day, Jane S.

Carre, Matthieu (University of Washington), Antonio Maldonado (CEAZA) and Donald Jackson (Universidad de Chile)

[292] *The first hunter-gatherers on the central Chilean coast: adaptations and climate change*

The archaeological site Punta Ñague (10ka to 8.5ka) was identified as a large habitational settlement of the preceramic culture Huentelauquen, which shows very early a strong maritime adaptation. Mollusk gathering seasonality was studied using bivalve growth line structures, providing insights into the seasonal resource exploitation strategies and the human group mobility patterns. Central Chile underwent dramatic climatic changes, from humid conditions during the deglaciation to an extremely arid phase in the mid-Holocene. Interactions between environmental changes and the Huentelauquen cultural evolution was studied through a multidisciplinary approach combining geomorphology, palynology, and shell stable isotopes.

Carricho, Yonara [107] see Bezerra De Almeida, Marcia

Carroll, Alex (Northern Michigan University)

[30] *Contested Landscapes: Differential Attachments to the Yellow Dog Plains of the Upper Peninsula, Michigan*

Within the United States, authorship over the past is intimately linked to resource management practices in the present. Today, familiarity with this trope characterizes discourse and actions of federal agents, archaeologists, the Bay Mills and the Keweenaw Bay Chippewa Indian communities and Kennecot Mining Company towards a cultural landscape of the Upper Peninsula of Michigan known as the Yellow Dog Plains. This paper explores a diverse range of cultural, economic, and political concerns shaping historic and contemporary attachments to the Yellow Dog Plains as well as the public and private discourse through which these diverse interests are formulated.

Carstens, Ken

[258] *Cave Management in Kentucky: A Retrospect and a Plan for the Future*

In this paper I provide an overview of prehistoric and historic cave use in Kentucky, briefly examine an attempt to conserve, curate, and study Murray State University's "Savage Cave--15Lo11," and I recommend a plan to identify, study, and protect caves as cultural resources as defined by Section 106 of the National Historic Preservation Act of 1966.

Carter, Tristan (McMaster University), Chris Doherty (Oxford University), Genevieve Holdridge (University of Albany) and Marina Milic (University of Belgrade)

[276] *From Sourcing to 'the Social': Re-Humanizing Characterization Studies*

While sourcing studies have been very successful in terms of artifact-material provenancing, archaeologists have yet to realize the full potential of this data in terms of engaging with debates upon the 'social'. Drawing on characterization studies of Çatalhöyük's obsidian and other siliceous materials, this paper attempts to re-humanize our data at two different scales. The first considers the experiences associated with the procurement of these resources, while the second examines to what extent our knowledge of artifact-material place of origin may have been appreciated – and meaningfully employed - by those handling them on a daily basis at Çatalhöyük.

[241] *Discussant*

Carter, Tristan [241] see *Lugliè, Carlo*

Cartwright, Caroline [74] see *Stacey, Rebecca J.*

Carvalho, António [186] see *Bicho, Nuno F.*

Carver, Charisse (Arizona State University)

[264] *Empire Building and Religious Conversion in the Archaeological Record*

Governments often employ religious rhetoric and directives in order to administer diverse peoples and suppress opposition. This kind of control has both societal implications and connotations for religious identity. The Carolingian Empire (c. AD 750 – 890) is one example of such a government. Confronted with continual 'pagan' resistance, the Carolingians not only established severe penalties for those accused of being pagan, but also decreed aspects of 'good' Christian burial. This paper will investigate such religious rhetoric by examining burial customs not only in the heart of the Empire, but also in the hotly contested regions of Carolingian control.

Casana, Jesse (University of Arkansas), Eric Jensen (University of Arkansas) and Jason Herrmann (University of Arkansas)

[165] *Settlement History and Urban Planning at Zincirli Höyük, Southern Turkey*

While the site of Zincirli in southern Turkey is renowned for its finely-carved basalt orthostats, discovered by a German expedition in the 1890s, most of the early first millennium BC city remained unexplored until recently. Subsurface geophysical investigations undertaken in 2007 now reveal a nearly complete plan of the forty-hectare settlement enclosed within a massive, circular fortification wall. Results offer unique insights into the development and organization of urban centers in the ancient Near East, as centrally-planned, monumental palaces, temples and gateways stand in stark contrast to the organic, agglutinative arrangement of residential neighborhoods.

Casana, Jesse [315] see *Grossman, Kathryn M.*; **[206]** see *Herrmann, Jason T.*

Cases, Juan Ignacio (Universidad De La Laguna/Sociedad Espanola De Estudios Mayas)

[79] *A Sky of Jewels: Cosmographic Elements in Maya Creation Texts*

Recent advances in epigraphy that lend valuable insight into several myths in Maya cosmogony involve certain cosmographic elements now interpreted as metaphorical references to jewels. In this paper, using linguistic, epigraphic, and iconographic sources

from the Classic to Colonial period, several of these elements are analyzed using this approach. Specifically, the concepts of the sky and their relation to mythological creatures adorning the astronomical landscape as jewels are discussed.

Casey, Joanna (Dept. of Anthropology)

[182] *Ethnoarchaeology and the African Diaspora*

West Africa has had a long and dynamic history of ethnoarchaeological research, providing Africanist archaeologists with valued, if indirect, analogical bridges into prehistory. Archaeologists of the African Diaspora do not appear to have made much use of the growing ethnoarchaeological record, relying instead on ethnographies, historical accounts and traveler's tales that are notoriously short on information that is useful to archaeologists. Ethnoarchaeology emphasizes the relationship between material, thought and action and therefore has considerable potential to provide insight into the material remains of enslaved peoples of West African descent.

Casile, Claudette (Washington State University), John G. Jones (Washington State University), Nicholas Dunning (University of Cincinnati) and Peter E. Siegel (Montclair State University)

[319] *A Palynological Perspective on Pre-Columbian Activities on Trinidad*

Three sediment cores were collected from wetlands in Trinidad, adjacent to documented archaeological sites along the west-central and southwestern coasts of the island. One of these continuously deposited sediment cores near the early Archaic site of St. John produced a detailed paleoenvironmental sequence and ample evidence of past human activity. Human behavior recorded in the core includes settlement occupation, forest clearing and burning, and site abandonment with subsequent forest regeneration. Agriculture may also be represented in the core as well as economically significant taxons during times of human settlement in the region.

Casserino, Christopher (University of Oregon)

[185] *A Bioarchaeological Perspective on Warfare and Massacre at Paquimé*

The abandonment of the city of Paquimé remains surrounded by mystery. Though based on minimal evidence, it is widely believed the final inhabitants were massacred by invaders and their bodies left unburied, a hypothesis that has stood untested for more than three decades. This paper will present new data collected from the human skeletal remains, which will be used to evaluate the massacre hypothesis. The results underscore the importance of including skeletal analysis when answering questions concerning human behavior, and the need to discuss alternative hypotheses to explain the unburied skeletons and the abandonment of Paquimé.

Cassiano, Gianfranco (ENAH-MEXICO)

[32] *Late Pleistocene-Early Holocene occupations in Northeast Hidalgo, Mexico*

The region of Metztitlán and Mezquititlán in the Mexican state of Hidalgo is rich in evidences of Paleoindian occupations. The oldest is represented by Clovis materials found in two sites, with evidences of fluted points manufacture and core-blade technology and some spatial specialization. The other set of archaeological records concerns a more articulated settlement pattern, with some fifty sites, related to a Plainview Dalton occupation. This region, which shows marked ecological gradients, is rich in raw materials such as chert, obsidian and fine-grained basalt and we appreciated a shift from chert to obsidian use, related to a more sedentary pattern in the early Holocene occupation.

Casson, Aksel (University Of Washington) and Elizabeth Winter (University of Washington)

[168] *Exploring Applications of Luminescence Dating: Case Studies from Europe, Asia, and the Near East*

In this poster we explore the diversity of luminescence dating in archaeological contexts in an effort to illustrate the flexibility of the technique. Luminescence data from heat-treated (or tempered) lithics from the Swabian Alb, sediments collected from the Mongolian Khirigsuur, ceramics from the Turkish Black Sea region, and plaster mortar samples from the Jordan Valley are presented. The applicability of luminescence in each context is

discussed.

Castanzo, Ronald [248] see Vonarx, Amy Jo

Castillo, Victoria (Dept. of Anthropology, University of Alberta) and Raymond Le Blanc (Department of Anthropology, University of Alberta)

[260] *Dual Northern Tutchone Trading Strategies: Evidence from Fort Selkirk, Yukon*
Previous research suggests sub-arctic aboriginal groups in direct contact with fur traders were quickly integrated into the fur trade sphere with partial or total dependence on the trading posts being the inevitable outcome. At the time of HBC contact at Fort Selkirk (mid-1940s) the Athapaskan speaking Northern Tutchone were already part of a dynamic trade network with the Coastal Tlingit Chilkat. This was due partly to established pre-contact trade networks and contact period fur trade competition. Written and archaeological evidence from Fort Selkirk suggests that the early fur trade of central Yukon does not fit the dependency model of contact.

Castillo-Butters, Luis (Pontificia Univ Catol del Peru)

[73] *Highland – Coastal Interactions as Factors in the Collapse and Reconfiguration of the Moche from Jequetepeque, North Coast of Peru*

Some of the most important and dramatic changes in Northern Peruvian history occurred between the years 700-1000 a.D. In these critical three hundred years the two most important processes were the collapses of the Moche states, and their reconfiguration in the Chimú and Lambayeque polities. But the nature of the factors and the sequence of changes that led from the Moche to the larger and more complex Chimú and Lambayeque are poorly understood. Excavations conducted in San Jose de Moro, a ceremonial complex in the northern Jequetepeque Valley, have produced a detailed and well documented record of this transition.

Castro, Victoria (Sociedad Chilena de arqueologia) [157] *Discussant*

Cauffman, Gideon (ICI Services, LLC)

[300] *Indigenous Root Gathering at U.S. Army Garrison Yakima Training Center*
Yakima Training Center (YTC) is a training facility for military and civilian agencies. The 500 square miles of training area is ceded Yakama Nation land. The Yakama, a federally recognized tribe, and the Wanapum, a non-federally recognized tribe use the land to harvest various root crops. However, with increases of military training and safety concerns, known traditional gathering areas are becoming difficult to access. This presentation will offer an overview of YTC, root-gathering, and what is being done to keep the tradition of root-gathering alive through GIS, ground-truthing, and tribal consultation.

Cauffman, Gideon [172] see Hackenberger, Steven

Cecil, Leslie (Stephen F. Austin State University), Michael D. Glascock (University of Missouri Research Reactor Center) and Prudence M. Rice (Southern Illinois University Carbondale)

[43] *The Role of Obsidian at Zacpetén, El Petén, Guatemala*

In general, Postclassic obsidian artifacts suggest a dominant reliance on the Ixtepeque source. However, an analysis of 262 obsidian samples from Zacpetén demonstrates that obsidian from El Chayal was utilized as frequently as that from Ixtepeque. When compared to obsidian frequencies at other central Petén Postclassic archaeological sites, such as Trinidad de Nosotros and Topoxté Island, we suggest that a different trade pattern exists in central Petén than that hypothesized for Belize and the Yucatán Peninsula. When these obsidian data are compared to ceramic evidence, central Petén emerges as another distinct economic core during the Postclassic period.

Cerezo-Roman, Jessica (University of Arizona) and Henry D. Wallace (Desert Archaeology, Inc.)

[177] *Mortuary Practices at Honey Bee Village, a Hohokam Settlement North of Tucson, Arizona*

Extensive excavations at Honey Bee Village, a Hohokam ballcourt site (A.D. 600-1200) near Tucson, Arizona, revealed a variety of mortuary practices including inhumations and cremations. This bioarchaeological study examines temporal and spatial variability of mortuary ritual practices in contrast to the age and sex of the individuals involved. The remains of 206 individuals were examined. Preliminary analyses indicate distinct differences in the treatment of children and adults. We discuss these and other patterns in the large mortuary dataset from this village.

Cezar Rubin de Rubin, Julio [31] see Silva, Rosicler Theodoro da

Chacaltana, Sofia

[263] *Political agency and local elites in Colesuyo during the early contact period*
During the early years of the conquest, several Spaniards visited the Moquegua Valley to resolve conflicts among local indigenous elites. These conflicts arose due to the Spaniards' failure to clearly understand the political organization of indigenous communities of the southern Andes. Intermediate elites were institutionalized or placed by the Inka government according to imperial interests and local traditions. Under the new colonial order, less powerful local leaders envisioned new opportunities to claim leadership over some parcialidades, probably a previously unattainable right. This paper explores how different Colesuyo intermediate elites used different strategies according to newly imposed social structures.

Chamberlin, Matthew

[228] *Religious Change and Symbolic Conflict in the Salinas Pueblo Province*
This paper conceptualizes transformations in Puebloan religious practice during the late AD 1200s and early 1300s as symbolic conflict. In the Salinas Pueblo Province, it is argued that this symbolic conflict centered on strategies of religious conservatism and militarism, in response to an influx of immigrants into the neighboring Rio Abajo region. Change in architecture and ceramic decorative style, coinciding with the transition from dispersed settlements to plaza-oriented pueblos, reveals a new scale of social mobilization and identity as Salinas populations responded to cultural difference through symbolic conservatism.

[46] see Rautman, Alison E.

Chan, Ben (University of Manchester)

[55] *Life amongst the rubbish: middening and conspicuous consumption at Durrington Walls, Wiltshire, England.*

Recent excavations at Durrington Walls near Stonehenge have revealed a series of archaeological remains unparalleled in Southern Britain. The most artefact-rich part of the site lies just outside the eastern entrance to the henge where a series of five houses were discovered flanking the Durrington Avenue. These houses were surrounded by a large midden comprised of a massive quantity of animal bone, pottery and worked flint. The number of articulated animal bones within the midden is suggestive of large-scale and "wasteful" feasting episodes. This paper will present the preliminary analysis of the worked stone from the midden.

Chance, John (Arizona State University) [301] *Discussant*

Chang, Nigel (James Cook University)

[141] *Domestication, Moats and Landscapes in Northeast Thailand*

This paper explores what the unintended psychological effects of a built environment on human interactions might be, especially with regard to multiple communities that share a landscape. The case study considers the numerous moat-and-mound sites distributed across the Mun and Chi river valleys, Northeast Thailand. The main contention is that, once constructed, the fact of oval mounds in which the dead are buried – and on which the living reside – and, that are surrounded by concentric 'moats', must have had a significant effect on the residents and how they saw their relationships with their neighbours.

Channel, Jason [188] see Graham, Tyler M.

Chapdelaine, Claude (Universite De Montreal)

[73] *The Early Initial Period at San Juanito, Lower Santa Valley: Interaction with the Andes*
San Juanito is a multi-component site overlooking the mouth of the Santa Valley. A decorated temple of the Initial Period was located and partially excavated in 2005 and 2006. The burial of an old woman below the main staircase contains evidence of contact between San Juanito and other groups located inland high in the Andes. The temple has been dated to around 1700 BC and the burial to 1600 BC. Selected artifacts made of fibers, textiles and stone as well as motifs sculpted on plastered clay walls of the temple will be presented and discussed.

[147] *Discussant*

Chapin-Pyritz, Regina

[255] *Recent Distributions of Scarlet and Military Macaw Remains from Southwestern Archaeological Sites*

Much of our knowledge of macaw distribution (bones and feathers) in the American Southwest comes from sites excavated 40-100 years ago. However, elements identified as macaw were recently excavated from a pit house village site (A.D. 850-1100) within the city of Prescott in north-central Arizona. Other archaeological sites of late have also yielded macaw elements. Based on this discovery, it was determined that a summary of Scarlet Macaw (*Ara macao*) and Military Macaw (*Ara militaris*) remains recovered from Southwestern archaeological sites over the last 20 years was needed.

Chapman, Sam [183] see Richards, Julian D.

Charles, Douglas (Wesleyan University)

[55] *Introduction: Stonehenge Viewed from Both Sides of the Pond*

The standing stones haunt the minds of archaeologists on both sides of the Atlantic and are the focal point of one of the most famous prehistoric landscapes in the world. The Stonehenge Riverside Project represents a concerted effort by five British universities to reinvestigate and rethink Stonehenge and its environs. The format of this session provides an opportunity for participants in the project to highlight a half-decade of findings; for several Americanist archaeologists also concerned with ritual landscapes to comment on the significance of the project for their own work and more broadly; and, hopefully, for a subsequent dialogue.

[55] *Chair*

Charles, Mike [276] see Demirergi, G. Arzu

Charles, Mona (Fort Lewis College)

[20] *5LP4991: A Case Study in Compliance, Stewardship and the Advancement of Archaeological Knowledge*

In 1998, a number of human burials were inadvertently disturbed from private land near Durango, Colorado. Unmarked human remains on private property are protected by Part 13 of Colorado State Act 24-80-1301. This significant archeological site was spared imminent destruction through the cooperation of the landowner, the Colorado SHPO's office, and Fort Lewis College, who has been excavating the site since 1998. The burials date to the Basketmaker II period (500 B.C. – A.D. 500). This period ushers in corn agriculture across the American Southwest and represents the beginnings and much of the temporal development of the ancestral Puebloans.

Charles, Mona [20] see Mulhern, Dawn M.; [126] see Cole, Sally J.

Charlie, Willie and Dana Lepofsky (Simon Fraser University)

[52] *The Chehalis Landscape of the Harrison Watershed*

For the Chehalis people of the Harrison watershed, there is a profound and ancient connection between the mundane, the spiritual, and the land. This interconnectedness, which is encompassed within the term *letse:mot* ("one mind one spirit") is visible throughout the Harrison landscape in the form of rock formations, rock art and other features. These

places are embedded with moral teachings perpetuated through narratives describing Chehalis historical events from the beginning of time onwards. These narratives, some of which are recounted in this poster, provide a broader cultural context for the archaeological research in the Harrison watershed.

Charlin, Judith (CONICET) and Ramiro Barberena (CONICET-IMHICIHU)

[118] *Geographical organization of southern Patagonian hunter-gatherers (Argentina, South America)*

Hunter-gatherer spatial arrangement is a complex phenomenon conformed by several social and spatial dimensions of interaction. We analyze the spatial organization of southern Patagonian societies (Argentina, South America). Firstly, we discuss data on the carrying capacity of terrestrial and marine environments, and on the availability of lithic raw materials, providing a basis for archaeological interpretation. Secondly, we integrate isotopic information on human remains and distributional data on lithic artefacts and items of marine procedence. Finally, we evaluate the amplitude of hunter-gatherer home ranges and the existence of a spatial hierarchy in terms of their importance for humans during the Late Holocene.

Charlton, Michael

[272] *Innovation in Late Medieval Iron Production*

Preindustrial iron production is sometimes presented as a static uneventful exercise in which ironmasters stay true to secret recipes, entrenched by ritual and magic. Analyses of slag from the fourteenth century iron smelting site of Llwyn Du in northwest Wales suggest a more vibrant perspective on the innovative potential of ancient iron producers. Over the span of fifty years, workers at Llwyn Du actively experimented with their recipe, ultimately developing two distinct methods for the production of iron. Rather than being tightly bound to tradition, medieval ironmasters actively engaged their economy with novel ideas and enhanced product lines.

Charlton, Thomas (University of Iowa) and Patricia Fournier (Escuela Nacional de Antropología e Historia)

[301] *1621-1820 Where are the Indígenas in the Eastern Teotihuacan Valley?*

The historical archaeology of the eastern Teotihuacan Valley has demonstrated the decline of the indigenous Aztec population in preconquest communities from 1521 to 1620 by which time Congregación Orders were initiated, as much as they ever would be. During the Middle (1621-1720) and Late (1721-1820) Colonial periods, the small Early Colonial ranches increase in number and are archaeologically identifiable. However, indigenous populations are not so easily discernible. This might be because of their few numbers, because the diagnostic ceramics-majolicas, colonial red wares-are absent from their ceramic inventory, or because 19th and 20th century population expansions destroyed these few earlier residences.

Charlton, Thomas H. [301] see Fournier, Patricia

Chartrand, Joelle [234] see Dell, Rachel C.

Chase, Arlen (University of Central Florida) [234] Discussant

Chase, Arlen [257] see Chase, Diane Zaino

Chase, Diane (University of Central Florida) and Arlen Chase (University of Central Florida)

[257] *Elites, Symbolic Production, and Economic Distribution at Caracol, Belize*

Archaeological data from Caracol, Belize demonstrate that Late Classic Period (A.D. 550-900) Maya economies were products of a complex system of power relations that carefully distinguished production from distribution. Economic power, as manifested in material goods, was vested in distribution systems controlled by managerial elites. The ruling elite maintained hegemonic power over this managerial elite and the general population through the production and use of symbolic markers. These symbols operated both on the

individual level to create status differentiation and on the group level to create a social identity that was useful for nation building.

Chase, Philip (University of Pennsylvania)

[154] *Form, Function and Mental Templates in Paleolithic Lithic Analysis*

The term "mental template" has played an important role in analyses of Paleolithic lithics. It has been linked to concepts such as standardization and style and to issues such as the evolution of human intelligence and the origins of symbolism. However, it is clear that the meaning of "mental template" differs from author to author, as does the (usually implicit) theoretical context from which it is viewed. This paper is an attempt to clarify the term by placing it in a low level model of what, at a very minimum, must happen in the mind of a knapper.

Chatfield, Melissa (Stanford) and J. David Stienmier (Evergreen Research, Inc.)

[92] *Innovation in Large Storage Vessels: Base-shape, Volume, and Principal Stress*

The increase in scale of feasting from traditional, household- to state-sponsored events is thought to have been accompanied by a concomitant increase in the size of pottery vessels used to produce, store, and serve large quantities of beer amassed for such functions. This poster presents a proof-of-concept model demonstrating that the conical base is a functionally significant innovation in the ceramic technology of oversized vessels. By holding the clay's tensile strength and the vessel's wall thickness constant, we compare the impact of base shape (flat, hemispherical, conical) on the maximum volume of liquid that each vessel can support.

Chatters, James (Applied Paleoscience)

[60] *Paleoenvironments and the Early Human Occupation of the Puget Sound Region*

During the last 5000 years of prehistory, since oceanic conditions stabilized and forests closed in, human settlements were concentrated along Puget Sound's rivers and shorelines. Older settlements are much more topographically widespread and less intuitively predictable, occupying upland benches, kettle lakes, and other historically undesirable habitats. This difference is partly attributable to marked changes in climate and the dependent composition and distribution of plant communities. This paper addresses what is known about postglacial terrestrial environments of the region and explores how differences in the seasonal distribution and intensities of insolation and precipitation translated into resource distributions in time and space.

Chauhan, Parth (Stone Age Institute)

[29] *A comparative study of Mode 2 assemblages from the Indian subcontinent*

While Acheulian assemblages are generally thought to represent the genesis and subsequent dispersals of a homogenous technological repertoire, there are distinct geographic variations in terms of their respective chronology, typology, technique, palaeoecological contexts, and thus, function as well. Utilizing quantitative, qualitative and associated contextual attributes, this paper highlights the techno-morphological variations of Mode 2 technologies in the Indian subcontinent, the richest easternmost occurrence of classic Acheulian technology. Lithic assemblages previously thought to be predecessors to the Indian Acheulian are also statistically compared to explore the possibility of an independent Mode 2 or Acheulian-like technological facies in the subcontinent.

[29] *Co-Organizer*

Chavez, Cecilia [58] see Plourde, Aimee M.

Chavez, Laura (ENAH-INAH) and Patricia Fournier (ENAH - INAH)

[150] *Protagonistas O Invasores: El Papel De Los Otomíes En La Conformación De Sociedades Complejas En La Región De Tula, Hidalgo, México*

En la arqueología mexicana, ha sido común la imposición de interpretaciones derivadas de las fuentes etnohistóricas en la explicación de los niveles de complejidad alcanzados por las sociedades que habitaron en los valles centrales de Mesoamérica. En esta ponencia nos centramos en una reevaluación del papel del grupo biolingüístico otomí en el desarrollo de sociedades complejas de la región de Tula del Epiclásico (600-900 dC) al

Posclásico temprano (900-1200 dC), con base en las evidencias arqueológicas, rebatiendo las hipótesis migracionistas que han pretendido dar cuenta de la historia prehispánica de esa zona y minimizan la importancia de dicho grupo.

Chavez, Sergio (Instituto Nacional de Antropología e Historia)

[14] *Estructura Formal y Organización Social de los Barrios en Teotihuacán*

Las principales ciudades del México antiguo se caracterizaron por organizar la vida económica y social en entidades que hoy llamamos barrios. Como unidades de análisis, los barrios se ubican en un nivel intermedio entre los conjuntos habitacionales y residenciales ocupados por distintos grupos domésticos y las instituciones gubernamentales y administrativas. Los trabajos realizados durante los últimos quince años en Teotihuacán, han permitido definir los elementos que componen la estructura de los barrios, así como los vínculos establecidos entre diferentes grupos y clases sociales. En esta ponencia se exponen los elementos constitutivos de un modelo de barrio para Teotihuacán.

Chavez, Ximena [180] see Pereira, Gregory

Cazen, Michael [115] see Baadsgaard, Aubrey

Cheetham, David

[155] *Cantón Corralito: An Early Olmec Colony in Global Perspective*

Worldwide, the colonial experience is multi-faceted and historically contingent, with social-political relations between colonist and local ranging from hegemonic to mutually beneficial and ethnic identity usually in a state of flux whatever the case may be. I explore these issues with respect to Cantón Corralito, a Gulf Olmec colony (ca. 1250-1000 bc) located on the Pacific Coast of Chiapas. My thinking is informed by models advanced for prehistoric colonies in Mesoamerica and other parts of the world, which I discuss, and the comparative analyses of material remains on which all such models must rest in the absence of written records.

[227] see Blomster, Jeffrey

Chen, Bingbai [106] see Ren, Xinyu

Chen, Fahu [22] see Morgan, Chris; [22] see Barton, Loukas W.

Chen, Maa-ling (National Taiwan University)

[106] *Continuities or Discontinuities; GSpatial Construction of different times and Different Areas of Kaushi, a Southern Paiwan Group of Taiwanese Indigenous*

Kaushi was divided into two subgroups while immigrated into Hun-chun. One settled on Saqacengalj and the other moved furthermore and settled on Cacuvakan. After generations these two subgroups merged on Aumagan. The purpose of this research is to study these settlements, their patterns and house structures to examine the similarity and difference of the sites to detect the continuity and discontinuity of the Kaushi culture on the different times and areas. Hope through this what is the tradition to the group and the trajectories of cultural change can be understood.

Chen, Pochan [226] see Flad, Rowan K.

Chen, Xingcan

[226] *Wild or domesticated? Water Buffalo in Early China*

Using archaeological, zooarchaeological, DNA, ethnohistorical and ethnographic data, this paper discusses human exploitation of wild buffaloes and their extinction in early China, and investigates the origins of domestic buffaloes. We argue that domestic buffaloes were most likely introduced from South Asia around the beginning of the first millennium AD, and the *Bubalus Mephistopheles* was a wild species, as manifest in water buffalo images from the Shang and Zhou periods although it was long considered as a species domesticated indigenously in China. These findings have implications for understanding the history of cultural contact between ancient China and South Asia.

[22] see Lee, Gyoung-Ah; [170] see Dong, Yu

Chen, Xuexiang (Archaeology Department, Shandong University) and Hui Fang (Shandong University)

[226] *Carbonized Seeds and Fruits from Daxinzhuang Site, Jinan, Shandong, China*

The excavation in 2003 by Shandong University at the Shang Period site of Daxinzhuang, Shandong, China has collected many different types of plants. My research examines carbonized seeds and fruits from about 200 flotation samples. It is demonstrated that people had multiple cropping of foxtail and broomcorn millets, rice, wheat, soybean and hemp at the site, along with other plant foods. I offer some explanations why people at this settlement used some different types of plant foods than at other Shang sites in northern China such as Anyang.

Cheruvellil, Jubin (Michigan State University)

[305] *Ideal Free Distribution model of hunter gatherer decision making in Saginaw Watershed, Michigan*

The diversity and complexity of foraging strategies used by hunter gatherers (hg) demonstrate their skills for coping with changing environmental and social conditions. I examine the relationship between such conditions in the Saginaw Watershed and hg decision making. I explore the role of spatial variation to assess the effects of biotic and abiotic features on hg subsistence. I use the Ideal Free Distribution theory to simulate, predict and interpret forager habitat and resource choices. A complex relationship exists between hg subsistence and available resources: hg select resources differently based on alternative habitats and patches in different environmental and social contexts.

Chesson, Meredith [85] see Kersel, Morag M.

Chevallier, Barbara (Archaeological Service of Canton Bern) and Cynthia Dunning (Archaeological Service of Canton Bern)

[65] *Standards of conservation of archaeological archives in Switzerland, a federal country*

The conservation of archaeological archives, paper, film and digital records as well as finds in Switzerland is under the responsibility of the cantons. Problems are similar, budgets and practices are varied. Based on the example of the canton Bern, the issues of preservation of and accessibility to the primary source of archaeological investigation will be discussed as well as the need for national standards. Preventive conservation and professional training of collaborators are seen as tools to achieve our goal of securing information for the future.

Chiariulli, Beverly (Indiana University of Pennsylvania)

[267] *Producers, Consumers, and Traders: Lithic Industries at Cerros and Chau Hix, Belize* Ancient Maya communities in Belize are generally classified as producers or consumers of lithic artifacts, based on the idea that groups either specialized in the production of these artifacts or in their use. In reality, it is difficult to divide communities into just these two categories. Most communities contained both producers and consumers, and the middlemen, the traders. In fact, many households within communities switched between these roles at different times and as they used different raw materials. This paper looks for evidence of producers, consumers and traders in the lithic industries of Cerros and Chau Hix.

[163] see Neusius, Sarah W.

Chicoine, David (Department of Archaeology, Simon Fraser University)

[73] *Coast-Highland Relationships during the 1st Millennium BC: Perspectives from the Nepeña Valley, North-Central Coast of Peru*

In the Central Andes, the first millennium BC corresponds to increased patterns of interregional interactions. In Nepeña, a valley of the north-central coast of Peru, many innovations, including the introduction of camelids, contributed to the intensification of long-distance trade. In this contribution, I review data from recent excavations at the site of Huambacho (800-200 BC), lower Nepeña, and assess the importance and contents of interregional interactions, in particular with the nearby highland zones. Evidence from ceramics, textiles and other materials is analyzed and the importance of these social

valuables within the ritual economy of local groups is highlighted.

Chilcote, Celise

[59] *Death knows no boundaries: Mortuary patterns in Postclassic Central America*
Mortuary practices are a valuable approach to the interpretation of cross-cultural relations. Features such as burial position, directional alignment, grave offerings, age grades and gender make it possible to determine specific burial rites as well as infer ideological concepts of death and the afterlife. Considering burial customs from El Salvador, Honduras, Nicaragua, and Costa Rica, this paper will establish patterns of similarity and variance between Mesoamerican and Chibchan cultural areas.

Chilton, Elizabeth (UMass Amherst), David Foster (Harvard Forest) and Deena Duranleau (Harvard University)

[289] *An Archaeological Ecology of the Southern Coastal New England*

Archaeologists working in conjunction with ecologists at Harvard Forest have developed a comprehensive database of pre-Contact archaeological sites in coastal New England and Long Island, New York. This database allows New England archaeologists to liberate information from hard to access Cultural Resource Management reports and allows both archaeologists and ecologists to examine change through time in site location and use. This has important implications for ecologists, who are integrating this information on human activity with pollen records, historical documents, etc., to develop a more accurate and wide-scale view of environmental change in the region.

[151] *Discussant* [38] *Discussant*

Chilton, Elizabeth [289] see Kasper, Kimberly

Chinchilla, Oswaldo (Museo Popol Vuh, Universidad Francisco Marroquín) and Janine Gasco (California State University, Dominguez Hills)

[155] *Cotzumalguapa Art and the Mesoamerican Religious Tradition*

The Classic city of Cotzumalhuapa is often linked to migrants from the Mexican highlands or the Gulf Coast, but the dating, origin, and specific processes involved remain controversial. Key to the discussion is the perception of foreign elements in Cotzumalhuapa art and writing. New iconographic observations reveal strong connections with the Lowland Maya area and Central Mexico, here explained as an expression of deeply rooted beliefs that were part of the Mesoamerican Religious Tradition. Parallels with Chichen Itza and other sites suggest a shared set of religious beliefs that became fashionable by the end of the Late Classic period.

Chisholm, Brian (University of B.C.)

[175] *Prehistoric Diet on the Northwest Coast of North America: Stable Isotopic Evidence*
Stable isotope analyses of archaeological bone have been carried out on the Northwest Coast since the late 1970's. Many of the data are scattered through the grey literature or in theses. This presentation collates and summarizes data collected over the last thirty years. As expected, the data indicate a high level of reliance on marine species as protein sources in local diets. This pattern has continued essentially unchanged for at least 5000 years, although there are some differences between open coast and delta environments as well as small differences between males and females in some sites.

[218] *see Canal, Cecilia*

Chisholm, Linda [194] see Hoffman, Brian W.

Chiykowski, Tanya (University of Calgary)

[138] *Lithic Material from the Archaeological Site of Cholula, Puebla, Mexico*

Lithics are an integral component of archaeological collections allowing for studies in material sourcing, manufacturing, and production sequences. Previously, lithics have been under studied in analyses of Cholula, Puebla, Mexico. This paper will address the lithic material found in the 2006/2007 rescue excavations from trenches throughout the city and compare to previous projects. Chipped stone tools were primarily obsidian from various sources, with a wide range of tool types. The complex history of Cholula makes interpretation of all categories of material culture key in understanding the lives of the city's

inhabitants and the economics of the city's inhabitants.

Choronzey, Jonathan (Université De Montréal)

[73] *Gallinazo-Recuay Interaction at San Nicolas, Lower Santa Valley, Peru*

In November 2006, the Santa Valley Project of the Université de Montréal has conducted excavations at the San Nicolas site in order to further document the presence of the Gallinazo culture in the lower section of the valley. Apart from expected Gallinazo materials, the excavation has produced a significant collection of fine Recuay ceramics. The discovery of such prestige items from the sierra, so close to the coast, suggests the existence of important networks of exchange between coastal and highland groups. This new evidence may also indicate the existence during the Early Intermediate Period of cultural interaction patterns more complex than what was previously thought.

Chovanec, Zuzana (University At Albany)

[179] *The Opium Poppy in Prehistoric Cyprus and the Origins of the Opium Trade*

Implicit archaeological evidence suggests that exploitation of the opium poppy, Papaver somniferum, for narcotic purposes begins in prehistoric Cyprus. Hitherto, archaeometric analyses evidencing the use and transport of opium during the Cypriot Late Bronze Age have been unsatisfactory. An interdisciplinary team at the University at Albany proposes to assess the validity of the theory that the Base Ring juglet of the Cypriot ceramic repertoire was utilized for the storage and transport of opium in the Eastern Mediterranean, to substantiate or refute the legitimacy of existing evidence, and to examine the chemical residues of vessels from this and earlier periods.

Choy, Kyungcheol (Max planck institute for evolutionary anthropology), In-Soo Ha (Busan Museum, Busan, South Korea), Michael Richards (Max- Planck Institute for Evolutionary Anthropology, Deutscher platz 6, 04103 L) and Ok-Ryun Jeon (Busan National University Museum, Busan, South Korea)

[116] *Reconstructing prehistoric Korean subsistence activities using carbon and nitrogen stable isotopic analysis*

Neolithic cultures of Korea are characterized by both hunter-gatherer and shifting cultivation societies, yielding enormous shell midden sites and the unique Jeulmun pottery for food storage. The Korean archaeology insists that agriculture was started in the mid-Neolithic, with the advance of rice. To better understand the prehistoric subsistence activities in Korea, analysis of carbon and nitrogen isotope analysis has been applied to archaeological bone samples from Dongsamdong and Nukdo. Preliminary results suggest that marine protein obtained from fish and sea mammals played a significant role for food resources in Neolithic costal regions of Korea, in conjunction with the terrestrial mammals.

Christensen, Christian [280] see Perez, Arturo E.

Christiansen, John [137] see Studevent-Hickman, Benjamin

Christie, Jessica (East Carolina University)

[257] *Architectural Strategies Pursued By Maya Elites In Late Classic Polities*

Ongoing research is uncovering the great human complexity of Maya elite status and their multi-faceted involvement in local and regional competitions for hegemonic power. This paper will discuss specific architectural strategies taken by elites in relation to the courts of the ruling sovereign. The analysis will include a comparison of the formal and spatial features of artists' houses at Aguateca, Copan, Palenque; the use of sculpture at Palenque and Copan; sweatbaths at Palenque; and some implications of the Plaza Plan 2 model. The purpose is to demonstrate which strategies might be indicative of elites emulating the rulers versus constructing a more independent and perhaps extralocal identity.

Chu, Alejandro [83] see Coutts, Karen H.

Chuipka, Jason (University of Colorado)

[222] *Community Organization in the Northern San Juan Region A.D. 760-820*

Large Pueblo I sites dating between A.D. 760 and 820 are a poorly understood phenomena

in the Northern San Juan (NSJ) region. Archaeologists have suggested there are two different ways that large groups of people are organizing settlements: eastern and western. This poster will illustrate large sites dating to the A.D. 760-820 period that are characteristic of the western mode of organization (i.e. Alkali 13, Martin 2), the eastern mode of organization (i.e. Animas – La Plata project sites, Grandview mesa), and one that has characteristics of both (Morris 23).

Churampi, Adriana (Faculty of Archaeology, Leiden University)

[196] *A House is a House is a House*

The Chronicles of Indies are the traditional historical sources for information about the original populations of Hispaniola. This paper demonstrates that these documents present an incomplete picture of the Tainos from Higüey. As an example, it takes the descriptions of the houses given by Bartolome de las Casas,. We will show that this source cannot provide a fair picture until it is compared with the Apologetica Historia,. Only a complementary reading of both texts will make us understand the western philosophical discussions that really animated the apparently simple description of the houses in Hispaniola by De las Casas.

Churcher, C.S. [205] see Blackwell, Bonnie A. B.

Cifuentes, Andres and Arthur Demarest (Vanderbilt University)

[282] *Archaeology, Inter-Community Cooperation and Dialogue, and the Creation of a Shared Regional Indigenous Heritage*

Many recent publications examine the dialogue and relationship between archaeological projects and communities. Yet regional archaeological and development projects also generate inter-community dialogues that then take on a life of their own. Here a case is explored for a region with a dozen Q'eqchi' Maya communities with different religious, political, and social structures that were previously in violent conflict in the civil war and over other issues. Their participation in archaeological site/sacred site, restoration, ecotourism, and management led to intense dialogue and subsequent changes in individual and community ritual, identities, and concepts of heritage.

Cilluffo, Marianne [157] see Kakoulli, Ioanna

Cinquino, Michael [71] see Hayward, Michele H.

Cioffi-Revilla, Claudio (George Mason University - Center for Social Complexity) and J. Daniel Rogers (National Museum of Natural History)

[137] *[Agent-based modeling of long-term human and social dynamics in Inner Asia]*

This NSF-funded GMU-Smithsonian project develops new computational theories to better understand long-term change and adaptation of polities in Inner Asia over a long time period (ca. 3000 BC to AD 1300), sufficiently long to include climate change. Several high-level agent-based models have been developed for capturing the multiple scales from households, to camps, to regions, to inter-regional and continental systems. New chronologies and original data sets are also being developed for model validation as well as intrinsic value for subsequent scientific analysis (e.g., modeling the duration of polities by event history analysis and other methods).

[137] Chair

Ciolek-Torrello, Richard [304] see Wegener, Robert M.; **[304]** see Klucas, Eric E.

Ciravegna, Fabio [183] see Richards, Julian D.

Clague, John J. [260] see Froese, Duane

Clark, Jamie

[214] *Site analysis and excavation of the Fremont site Big Village in Range Creek Canyon*
Big Village is a complex Fremont site within Range Creek Canyon in eastern Utah. It consists of seven circular surface rock alignments and an associated diverse artifact

scatter. In the summer of 2007, the University of Utah field school conducted limited testing in an area with dark surface charcoal staining and numerous artifacts. Testing revealed subsurface deposits consistent with midden deposits, as well as artifacts and features suggesting an earlier more specialized function. Big Village provides an important piece of the growing context for understanding how adaptations in Range Creek fit within the large Fremont archaeological complex.

Clark, Jeffery (Center for Desert Archaeology) and Paul Reed (Center for Desert Archaeology)

[266] *Methods for Differentiating Chacoan Presence from Chacoan Influence in the Middle San Juan*

The identity and cultural background of the inhabitants of "Chacoan outliers" has been the subject of considerable debate in Southwest Archaeology. Did Chacoan migrants establish these outliers as colonies or did local groups emulating Chaco build them? This paper argues for a site-by-site evaluation of this fundamental question while offering migrant-local co-residence as third possible explanation. Methods that have successfully differentiated migrant and local settlements in the southern Southwest are presented that may prove useful in disentangling the complex history of Chacoan presence and influence in the Middle San Juan Valley.

Clark, Joelle (Anthropology Department), Crystal Alegria and Jeanne Moe (Montana State University)

[293] *Teaching Archaeology as Culturally Relevant Science Curricula: Building Scientific and Archaeological Literacy*

The American Association for the Advancement of Science outlined a clear vision for achieving a scientifically literate citizenry in the United States by 2061. Research shows that minority students have trouble connecting with science in school because it is not seen as culturally relevant. Teaching archaeology as a culturally relevant science helps build both scientific and archaeological literacy. Project Archaeology developed an investigation of the Poplar Forest slave quarters emphasizing scientific processes and analyses employed in data collection and interpretation. Project Archaeology is analyzing the impact of teaching science with archaeology in classrooms with significant numbers of African American students.

[151] *Discussant*

Clark, John (Brigham Young University)

[16] *Out of Circulation: Caching Practices in Formative Mesoamerica*

The identification of wealth items in the archaeological record generally reveals more about modern analytical schemes and definitions of chattels and property than about prehistoric peoples. One possible way to get at indigenous systems of value is to monitor the circulation of various kinds of goods in ancient political economies, ironically most apparent when the goods are taken out of circulation and placed with the dead or as votive offerings in buildings. I consider the caching practices of the Olmecs and their predecessors.

[155] *Discussant* [53] *Discussant*

Clark, John Edward [227] see Hodgson, John Garwood

Clark, Linda [293] see Moe, Jeanne M.

Clark, Terence (University of Toronto)

[243] *Uncovering Northwest Coast Group Identity: Integrative Archaeology of Shell Middens*

This paper will explore the utility of Integrative Distance Analysis (IDA) as a new methodological framework for understanding archaeological problems, in this case the complex dataset presented in shell middens. Based on a series of statistical procedures, (IDA) datasets are converted to distance matrices and are compared and tested for correlation. Geographical, technological, economic, linguistic and ritual data are examined with the end goal of delineating prehistoric group identity.

Clarkson, Chris (The University of Queensland)

[29] *In search of the technological signal of the Southern Dispersal*

Modern humans left an archaeological record behind on their journey out of Africa, comprised mainly of stone artefacts. While the first moderns in Europe left a distinctive technological signal in the form of the Aurignacian, it is less clear what modern humans brought with them through India, southeast Asia and Australia. This presentation reports recent work on the technologies of Africa, India and Australia, which highlights the difficulty of identifying the signal of dispersing modern humans. A new multivariate approach to the quantification of Palaeolithic core assemblages is presented that may help resolve some of these difficulties.

Clarkson, Christopher [143] see Hiscock, Peter D.

Clay, R, Lewis Somers (Geoscan Research) and Michael Hargrave (U.S. Army Corps of Engineers ERDC-CERL-IL)

[81] *Comparisons of Resistance and Magnetic Imagery of Poverty Point's Ridges*

Ongoing geophysical investigations are providing the basis for an improved understanding of site structure and spatial organization at Poverty Point because the site's deposits are exceptionally amenable to both magnetic gradient and electrical resistance techniques. Geoscan Research's prototype wheeled resistance system, towed by an ATV, and dual fluxgate gradiometers have allowed the rapid collection of enhanced imagery for a 1.6 hectare portion of ridges West 1 and 2. Comparison of the data sets will be particularly useful for documenting the original form of ridge terminations and aisle openings as well as plaza features like circular ditches, borrows, and post circles.

Clayton, Sarah (Arizona State University)

[277] *Measuring the Long Arm of the State: Teotihuacan's Relations in the Basin of Mexico*
Teotihuacan has long been viewed as a primate center, dominating surrounding settlements in the Basin of Mexico both politically and economically. Its specific relationships with nearby subordinate polities, however, are not well understood. In this paper I consider Teotihuacan's varying involvement with surrounding Basin settlements by comparing ceramic assemblages from two distinct sites: Axotlan, in the west, and Cerro Portezuelo, in the south. Results suggest that the nature of Teotihuacan's relationships with secondary Basin settlements varied considerably. This variation likely reflects differing strategies on the part of the state and varying degrees of political and economic autonomy among Basin polities.

Cleeland, Lauren [256] see Lewis, Cecil M.

Cleland, James (EDAW, Inc.) and Andrew L. York (EDAW, Inc.)

[80] *Settlement Trends and Sociocultural Change on the Southern California Coast: Complementary Views from Seal Beach and Camp Pendleton*

Large radiocarbon data bases along the southern California coast reveal a dramatic shift in local and regional settlement that is consistent with a model of punctuated intensification. Reduced domestic habitation of long-term coastal sites is readily confirmed, but a concurrent increase in diverse smaller sites indicates settlement reorganization, rather than wholesale abandonment. Direct dates on mortuary remains indicate continued use of long-term coastal middens for symbolic purposes and cultural continuity across this transitional period. The introduction of cremation was a gradual process, the symbolic importance of which was probably critical in the formation of reorganized socioeconomic groups.

Clementz, Mark [36] see Corbett, Debra

Clites, Elizabeth (Monticello Department of Archaeology) and Lynsey Bates (Monticello Department of Archaeology)

[8] *Whose Trash is This? Unraveling Ethnostratigraphy on Monticello Mountain*
Archaeologists who study stratified societies often encounter superimposed, time-transgressive deposits from multiple households with radically different social and

economic statuses. One such site is found at Monticello, where for over fifty years the mountaintop was the center of a bustling plantation where members of Thomas Jefferson's household, free workmen, and slaves interacted. The long occupation period combined with several distinct social groups working and living together result in a stratigraphically complex assemblage that we attempt to decipher. We employ the complimentary methods of ceramic stratigraphy and correspondence analysis to explore the socially and economically distinct sources of these deposits.

Close, Angela (University of Washington)

[149] *Social inequality in the simplest of artifacts*

It is accepted that the flaking of stone can reflect social inequalities, particularly in the occurrence of "over-manufactured" artifacts, or in control of the organization of production. Using data from a Neolithic context in the Eastern Sahara, I show that even when the stone tools are apparently "expedient" flakes - made, used and discarded in the same place - social inequality still rears its ugly head. Some "expedient flakes" are more equal than others.

Clouse, Robert (University of Alabama) [191] Discussant**Cobb, Allan, James Brady (California State University, Los Angeles) and Sergio Garza (University of California, Riverside)**

[280] *Caves and Fish in Mesoamerica: An Initial Consideration*

Ethnoarchaeological investigations in Nenton, Huehuetenango, Guatemala recorded data on an elaborate ritual involving the taking of fish from a small cave near the town. The ritual bears similarities to fish harvesting recorded in the cave of Villa Luz, Tabasco, Mexico suggesting that the ritual in this later cave is not unique. Fish are present in many watery caves and cenotes throughout Mesoamerica opening the possibility that the consumption of cave fish was once widespread. These resources are generally too restricted to have been an important element in diet but could have been significant from the ritual perspective.

Cobb, Allan [136] see Brady, James E.**Cobb, Charles (South Carolina Inst of Archaeology and Anthropology) and Brian Butler (Center for Archaeological Investigations, SIUC)**

[72] *Itinerant Histories and the Founding of Mississippian Places*

Population movement is accompanied by attempts to re-establish social and ideological orders through the built environment. The inscription of these 'itinerant histories', however, is always subject to modification brought about by disorder surrounding migration and the social and physical constraints of new surroundings. The founding of a pair of Mississippian villages in southern Illinois ca AD 1250 reflects the tensions brought about by attempts to re-embed micro and macro histories in houses, community plans, and the surrounding landscape.

Cobean, Robert (INAH)

[227] *Olmec Obsidian Mining and Trade in the Region of Pico de Orizaba Volcano, Veracruz and Puebla, Mexico*

This paper will discuss recent research concerning the economic and political roles of the Olmec civilization in the mining and trade of obsidian from various source areas in the region of Pico de Orizaba Volcano. A special focus will be made on the Middle and Late Formative center called Yerbabuena near Tomatlán, Veracruz, which possesses extensive obsidian tool workshops. Nearby probable Formative obsidian mining zones on the eastern slopes of Pico de Orizaba also will be discussed.

[279] Discussant**Coben, Lawrence (University of Pennsylvania)**

[13] *Dance and Sing and do the Inka Thing: Spectacle, Performance, Daily Life and Inka Ethnohistory*

Some ethnohistorical documents, including many of the chronicles, document an extraordinarily rich and resource intensive series of festivals and rituals throughout the Inka

empire. Indeed, a reading of the chronicles might suggest that the Inka did little more than perform large scale public rituals that included music, dancing, chicha consumption and animal sacrifice. The visitas and archaeological evidence, while to some degree cognizant of these performances, paint a broader picture of life in the empire, including some more mundane quotidian activities of life and production. In this paper, I synthesize these various sources to contextualize the role of performance, ritual and spectacle in everyday Inka life.

Cochard, David (PACEA - UMR 5199 du CNRS) and Véronique Laroulandie (PACEA - UMR 5199 du CNRS)

[69] *Small game exploitation at the end of the palaeolithic in the South of France*
In the south of France several archaeological sites dating between 18,000-12,000 cal BP have produced faunal assemblages rich in bird and lagomorph remains. In the Upper Magdalenian (ca. 15,000 cal BP) there is an increase in the capture of small arctic species. These animals have been processed using complex strategies to obtain food and raw materials. After 13,500 cal BP the hunting of temperate species, particularly rabbit, increases. New processing patterns also appear and are mainly dietary in nature. We discuss the origins of these techno-economic changes with a special emphasis on environmental (climate, vegetation, fauna), demographic and social factors.

Cochran, Jennifer (The University of Kentucky)

[316] *A Contextual Analysis of Marine Shell at Blackman Eddy, Belize*

Marine shell has been documented as an important commodity in the Maya Lowlands throughout the course of Maya prehistory. Recent investigations of this artifact class have revealed that marine shell was prevalent during the Middle Preclassic. Excavations from Blackman Eddy have recovered marine shell artifacts in all phases of the 2000-year site occupation, however, the majority of marine shell artifacts from Blackman Eddy were encountered during the Middle Preclassic. This paper examines contextual patterning of marine shell artifacts during the Middle Preclassic and explores how these patterns reveal continuity as well as discontinuity when compared to surrounding sites.

Cock, Guillermo (ConsultPatCu EIRL), Elena Goycoccyhea and Melissa Murphy (Brynmawr College)

[13] *The Siege of Lima and the evidence of natives killed during the Conquest*

In 1536 Manco Inca was able to isolate the Spaniards living in Cusco in Lima, while exterminating most of those living outside these cities. Although Pizarro attempted to send at least four expeditions to save his brothers and Cusco's population, he failed and, at the end, the Inca troops manage to put Lima also under siege. In 2004 and 2006, during excavations conducted at the site of Puruchuco in Lima, we were able to recover a number of individuals that showed injuries caused by European weapons. They were killed during the Siege of Lima.

Codding, Brian [173] see Bird, Douglas W.

Cody, George [168] see Hinman, Miriam R.

Coello Rodríguez, Antonio [13] see Bauer, Brian S.

Coffman, Sam (University of Nevada, Reno)

[128] *Metric Variations in Fluted and Unfluted Projectile Points from Pleistocene Lake Tonopah & Mud Lake, Nevada*

Paleoindian lithic technologies in the Great Basin remain largely unclear, specifically in regards to the origins and ages of fluted and unfluted projectile points. It is uncertain if these two point types are related such as Folsom/Midland, or if these two point types are dissimilar, Clovis/Goshen. A morphometric analysis of Gary Noyes' collection of fluted and unfluted points from the Pleistocene Lake Tonopah and Mud Lake areas of southcentral Nevada are enabling us to address this issue. In addition this study has provided further insight into toolstone procurement and settlement mobility among Great Basin Paleoindians.

Coggins, Clemency (Boston University)

[195] *The Protection of Latin American Cultural Property Since 1970*

In 1970 US involvement in Latin American cultural property began with the destruction of Pre-Columbian sites and antiquities traffic into the US. When importation from specified countries became illegal, pressure on museums led to acquisition policies that excluded them while ignoring looting and market realities. Current US legislation deters illegal imports – but cannot stop looting and traffic which only increase as they adapt to new restrictions. Revised attitudes and tactics that recognize these realities are necessary – however unpalatable.

Cogswell, Ainslie

[235] *Dwellings and Function: An Analysis from a Dorset Palaeoeskimo Site in Northwestern Newfoundland, Canada*

Recent research at Phillip's Garden has concentrated on the Middle Phase of the site's occupation. The artifact assemblages from several fully excavated Middle Phase dwellings were examined using a method of statistical analysis, correspondence analysis, for the purposes of determining whether the large number of sewing tools recovered from one of the dwellings (House 18) was anomalous. Preliminary results indicate that while a wide range of activities occurred within each dwelling, the large relative abundance of some tool types might indicate that certain dwellings functioned as meeting areas for people performing particular tasks.

Cohen, Amanda

[58] *Assembling the Yaya-Mama Religious Tradition*

The Yayamama Religious Tradition (YMRT), as defined by Karen Chavez, was an integrated suite of ritual architecture, art, and artifacts characteristic of the Titicaca Basin Formative Period (ca. 2000 B.C. - A.D. 400). Chavez located the origins of the YMRT in the southern basin Chiripa culture. Prompted by recent discoveries in the northern basin, YMRT origins are here reconceptualized as resulting from a syncretic process of contact and cross-fertilization between the three major Formative Period cultures of the South-Central Andean highlands: Chiripa, Qaluyu, and Wankarani.

Cohen, Claire (Institute of Archaeology, UCL), Mary Van Buren (Colorado State University) and Thilo Rehren (UCL Institute of Archaeology, UK)

[248] *The Persistence of the Huayras in Southern Bolivia: A Case for Evolution or Immobility?*

The southern Bolivian Andes has been a major metal producing region since pre-Hispanic periods. Over the last 500 years the area has shown a diverse and variable metallurgical history. There is little archaeological or historical evidence regarding the types of metallurgical methods used by pre-Hispanic people. The study of archaeological (colonial) and current day huayras, wind blown furnaces that have Andean origins, indicate a case for evolving technology. Archaeo-metallurgical analyses of huayra remains have shown that these furnaces were not technologically immobile. Sociological, political and economic factors have stimulated variation in the technological function and style.

Cohen, David (ICEAACH)

[143] *What was the impact of the Younger Dryas on hunter-gatherer populations in China and surrounding East Asia?*

Recent paleoclimatic research and archaeological research in East Asia are shedding new light on the Pleistocene - Holocene transition in the region. This paper examines how the Younger Dryas (ca. 11-10,000 bp uncalibrated) possibly affected human populations (hunter-gatherer groups) across the region and whether Younger Dryas effects were somehow a "push" toward the incipient or early Neolithic cultures that appear in the archaeological record, particularly in China, during the early Holocene.

Cohen, David (University of California-Berkeley)

[6] *Subaltern Histories on the Fringe of the Kgalagadi, Botswana*

Archaeological interpretation often "speaks" for those that no longer have a voice or find

themselves silenced. This project—an investigation of the complex relationships between foragers and farmers on the fringe of the Kgalagadi desert in southeastern Botswana over the past few thousand years—is an attempt to speak for subaltern groups in the past and present. Archaeological analyses and oral traditions reveal the complex contact relationships that developed, and serve to empower groups in the present, as history shows a richly colored past that stands in stark contrast to accounts of minority group histories in the present.

Coinman, Nancy [95] see Otarola-Castillo, Erik; **[95]** see Boehm, Andrew

Colaninno, Carol (University of Georgia)

[243] Vertebrate Faunal and Shell Midden Formation at St. Catherines Shell Ring (9Li231), Georgia (USA)

The Late Archaic period (4500-3000 B. P.) of the southeastern coastal United States is characterized by human-constructed circular shell formations. Although archaeological investigations have been conducted at several of these sites, questions remain regarding the formation of these deposits. Vertebrate data from recent excavations at St. Catherines Shell Ring (9Li231), St. Catherines Island, Georgia, indicate that vertebrate remains at the St. Catherines Shell Ring were deposited seasonally, but throughout the year. Also, the use of oxygen isotopes from hardhead catfish (*Ariopsis felis*) provides new information about how vertebrates were deposited at these sites.

Colas, Pierre (Vanderbilt University)

[233] The Social Construction of Kingship in the Usumacinta Region

Against the common notion of a homogeneous Maya area this paper will demonstrate hitherto not identified fundamental differences in the perception of kingship in the southern Maya lowlands, highlighting the Usumacinta region. Analyzing key rhetorics and metaphors this paper shows how Usumacinta kings consciously chose a path of rule that differed from their central Peten counterparts choosing a less exalted and divine status. This different approach stems from a fundamentally different social structure in the Usumacinta drainage. Kingship is always a social construction and the result of regional and community interaction.

Cole, Sally, Marvin Rowe (Texas A & M University-Qatar) and Mona Charles (Fort Lewis College)

[126] Lead, Murals, and Pottery: Tracing Technologies and Peoples of Lowry Pueblo, Southwest Colorado

White pigment from murals in two kivas at the Lowry Pueblo great house contains high levels of lead measured in parts per thousand by an x-ray fluorescence detector. The kivas, built between A.D. 1080 and 1140, are "stacked," a practice associated with post-A.D. 900 Bonito phase great houses in Chaco Canyon. The mural art probably developed outside of Chaco in the northern San Juan region raising the possibility that Lowry great house was occupied, perhaps settled, by descendants of upper San Juan populations who used lead to decorate pottery in the eighth and ninth centuries.

Coleman, Magen (University of Missouri), J. David Robertson (University of Missouri), Jeffrey R. Ferguson (University of Missouri), Michael D. Glascock (University of Missouri) and Stanley H. Ambrose (University of Illinois)

[6] Revisiting Obsidian from Eastern Africa

Although compositional studies of obsidian from Eastern Africa conducted during the 1980's showed great potential, a comprehensive database has not been developed. Similar databases have proven critical to the interpretation of obsidian compositional data in other areas around the world. African archaeology is vital to an understanding of the origins of modern humans, and such a database would be useful to study the movements and interactions of the peoples who lived in this region. In this study, we examine artifacts and geological samples from Kenya via X-ray fluorescence and neutron activation analysis to test our ability to distinguish between individual sources.

Collard, Mark (Simon Fraser University) and Jamshid Tehrani (Durham University)

[261] *Cultural transmission and the explanation of similarities among archaeological assemblages*

Network methods are often used to understand the distribution of similarities and differences among archaeological assemblages. In such analyses it is commonplace to assume that similarities are the result of either vertical or horizontal transmission. Here, we outline a study whose results suggest that this assumption is problematic and should be avoided. The study focused on craft learning in Iranian tribal populations, and used a novel combination of ethnographic fieldwork and cladistic analyses to investigate how the processes through which individual weavers learn and share their knowledge relate to the development of group-level similarities and differences in woven material culture.

Collard, Mark [29] see Buchanan, Briggs; [188] see Ness, Olivia

Collins, Lori (University of South Florida) and Travis Doering (University of South Florida)

[112] *Stories in Stone, Stucco, and Ceramics: Using Three-Dimensional Laser Scanning in Mesoamerica*

The application of three-dimensional laser scanning is relatively new to Mesoamerican archaeology, and is poised to revolutionize how we see and document the past. In this paper, we describe various types of spatial data acquisition and documentation techniques that we have used to produce data sets of Mesoamerican sculpted artifacts that can be accessed and analyzed worldwide by those interested. This approach has the potential to significantly change how archaeological research is conducted and how material culture and its context are viewed and interpreted, while enhancing communication and engagement of the public in archaeological research.

Collins, Matthew (University of York), Hannah Koon (University of York), Mike Buckley (University of York) and Yue Yang (University of York)

[223] *Sequences from the Triple Helix*

The triple helix of collagen forms the bulk of the organic fraction of bone and the basis of most radiocarbon and stable isotope analysis of bone. The sequence information resident in the collagen molecule (more than 2000 amino acid residues) has not yet been widely exploited in archaeological applications. New technologies offer the possibility of accessing protein sequence information. This presentation will outline some of the advances which now permit the accessing of this sequence information and will consider the potential utility of these collagen sequences in archaeological applications, including the identification of remains, pathways of decay and pathologies.

Collins, Michael and Jon C. Lohse

[53] *Continuing Perspectives on Clovis Blade Cores*

Systematic research on blade cores has been conducted on only a few Clovis assemblages in North America. Even though prismatic blades were integral components of Clovis toolkits and subsistence technologies, little enough is known about their manufacture for most regions where Clovis finds have been documented. The goal of this paper is to summarize what is known of techniques for preparing and maintaining Clovis blade cores in an attempt to foster a better understanding of the full range of Clovis lithic technology.

Collyer, Michael [95] see Otarola-Castillo, Erik

Colman, Arlene (Brigham Young University)

[171] *Mesoamerica's Formative Sister Cities: La Venta and Chiapa de Corzo*

This poster illustrates the close connection between the Middle Formative sites of La Venta and Chiapa de Corzo. La Venta is within the Olmec heartland and Chiapa de Corzo is in the central Chiapas highlands. La Venta was built as a sacred, planned city using ritual counts to determine the placement of its pyramids, plazas, mounds, and monuments around 850 BC. Chiapa de Corzo mirrored the layout by 750 BC. In concert with the physical modeling, the citizens of Chiapa de Corzo also likely mimicked the practices and

beliefs incorporated into La Venta's layout.

Coltman, Jeremy, Karl Taube (University of California, Riverside), Michael Mathiowetz (University of California, Riverside) and Polly Schaafsma (Museum of Indian Arts and Culture/Laboratory of Anthropology)

[112] *The Darts of Dawn: The Tlahuizcalpantecuhtli Venus Complex in the Iconography of Mesoamerica and the American Southwest*

Since the late 19th Century, Eduard Seler and others recognized that the Late Postclassic Central Mexican deity, Tlahuizcalpantecuhtli "the God of Dawn", embodied Venus as the Morning Star. With roots in Early Postclassic Toltec-related iconography, this deity is often depicted as a skeletal star god shooting darts. A closely related ritual complex emphasized fertility and warfare and was centered upon stars, feathered serpents, and celestial darts. This study examines this complex in the art of ancient Central and West Mexico and relates it to strikingly similar motifs in Pueblo IV kiva murals and rock art in the American Southwest.

Colwell-Chanthaphonh, Chip [25] see Nash, Stephen E.

Commandador-Dudgeon, Amy [11] see Dudgeon, John V.

Condon, Peter (TRC Environmental) and Willi Hermann (TRC Environmental)

[4] *Socio-Organizational Responses to Environmental Stress in the Northern Chihuahuan Desert: Examining Architectural Variability during the late Mesilla phase A.D. 600 to 1100*. Semi-subterranean pit houses are one of the more identifiable cultural traits identified within the Jornada Mogollon region. As such, variability in architectural form and construction has been interpreted as a seasonal response to environmental stress (Hard 1983a; Whalen 1994). An analysis of architectural diversity between 25 Mesilla phase pit houses test current models of seasonally based socio-organization along the Organ and Franklin Mountain alluvial fans. The results of this study are part of an ongoing series of analyses that seek to test existing assumptions on architectural variability, environmental stress, and land-use patterns within the northern Chihuahuan desert.

Congram, Derek (Simon Fraser University)

[70] *Between Historic and Forensic; Spanish Civil War exhumations in Uclés (Cuenca Province), Spain*

Excavations of unmarked graves in Uclés from the Spanish Civil War (1936-1939) and subsequent repression (1940-1942) are being touted as a forensic field school for Spanish university students. However, the legal investigation that makes archaeological excavations forensic is missing. Living family members (mostly children or grandchildren) of those who died or were killed have called for their exhumation, identification and repatriation. Only via a combination of archaeological interpretation and anthropological analysis have steps been made towards the goal set by families of the missing. The question of where forensic archaeology begins and ends will be discussed.

Coningham, Robin [54] see Schmidt, Armin

Conkey, Margaret (University of California) [293] *Discussant*; **[247]** *Discussant*

Conlee, Christina (Texas State University)

[147] *Nasca and Wari: Local Opportunism and Colonial Ties during the Middle Horizon* Ever since Dorothy Menzel made the analogy between Nasca and Wari as that of Greece to Rome the two have been viewed as ideologically and politically connected. However, archaeological evidence from Nasca suggests that the relationship was complex and not easily categorized. Evidence for direct Wari presence is spotty but everywhere in Nasca there were great changes in the Middle Horizon that included the establishment of new sites, aggregation, population movement, new mortuary practices, and new material culture all of which came to an abrupt end when the region appears to have been abandoned before Wari collapsed in the core.

[274] see Buzon, Michele R.

Connaughton, Sean

[252] *Emergence and Development of Ancestral Polynesian Society in Tonga*

Scholars argue that Polynesian cultures today have their roots in an ancestral homeland situated in western Polynesia, primarily Tonga and Samoa. The transition from the Eastern Lapita phase to the subsequent Polynesian Plainware phase is critical for understanding the emergence and development of Polynesian culture. This transition reflects social and economic changes that lead to the development of an Ancestral Polynesian Society. The primary archaeological marker for this transition is Polynesian Plainware ceramics. This paper will outline the analysis of a Polynesian Plainware ceramic assemblage and will discuss how this analysis contributes to our understanding of APS in Tonga.

Connell, Samuel (Foothill College), Alison Loewen and Chad Gifford (Columbia)

[37] *NGO Cash Cow or Anthropology Project? Community Driven Archaeology and Museums at Pambamarca, Ecuador*

Development work of the Pambamarca Archaeology Project is entangled in webs of previous experiences with colonizing forces, from Inka and Spanish empires to international aid organizations. Local perceptions about sustainable development projects in the northern Ecuadorian Andes complicate efforts for community driven archaeology and museums. The range of reactions is diverse. Some communities completely shun outside organizations while others initiate and carry out plans to be a part of newly evolved tourism. This paper explores the reasons for myriad differences found in adjacent communities, arguing that community dynamics particular to the region have been frustrating colonizers for centuries.

Connors, Robin (San Jose State University)

[33] *Ka I'a Kinohinohi Pohaku (The Fish that Adorn the Rocks): A Preliminary Report on Shellfish and Sea-urchin Analyses, North Kohala, Hawai'i Island*

In Leeward North Kohala, archeologists primarily examine subsistence in terms of upland agricultural production in the Kohala Field System. Recent excavation at coastal habitation complexes reveal how coastal resources supplemented and stabilized subsistence for residents of leeward Kalala Ahupua'a. While ethnographic records indicate that primary gatherers of in-shore resources were maka'ainana (commoner) women and children archaeological evidence suggests shellfish and sea-urchin consumption traversed both gender and status. Overall, preliminary results of this research suggest we must re-examine the place of non-chiefly women and their contribution to the subsistence and political economy of the larger community.

Conrad, Geoffrey (Indiana University), Charles Beeker (Indiana University) and John Foster (California State Parks)

[258] *The Taíno Underground: Prehistoric Use of Limestone Caverns in Hispaniola and the Caribbean*

Ethnohistorical sources state that caves were important places in the mythology of the Taínos, the contact-period native peoples of the Greater Antilles and the Bahamas. Recent discoveries in the Dominican Republic indicate that caves were associated with the spirits of the ancestors, the life-giving properties of water, female supernaturals, female fertility, and the structure of the universe, among other things. Some caves may also present the Taíno view of the first encounters with Europeans. This paper reviews the evidence and suggests ways of distinguishing between local and regional ritual importance in the use of specific caverns.

[102] *Discussant*

Contreras, Jannen [74] see Ruvalcaba, Jose Luis**Conyers, Lawrence (University of Denver)**

[54] *Ground-penetrating Radar Mapping of Mayan Agricultural Fields and Dwellings, Cerén, El Salvador*

The buried Mayan village of Cerén in El Salvador was the site of one of the first archaeological applications of GPR. Recent GPR mapping with high resolution antennas

resolved buried manioc and possible maize fields as well as buildings in this agricultural community, buried by as much as 4 meters of volcanic ash. Analysis of these data in conjunction with standard excavations shows a sophisticated agricultural technology that produced a surplus of root crops, which has not been previously documented for the Maya area.

Conyers, Lawrence [54] see Lowry, Sarah M.; [54] see Ernenwein, Eileen G.

Cook, Anita (Catholic University of America)

[73] *Tracing Political Procreation Through Gender in Iconography*

When the highland Huari Empire coalesced and political conditions changed with the annexation of south coast valleys, the manner and frequency with which the sex of human figures could be identified changes. Sexual differentiation in the visual arts continues and is celebrated on the south coast despite a visible decrease in the highlands. I explore whether these changes were a consequence of tensions and resistance to political change in the annexed territories, and review the cultural constructions that contributed to the representation of gender distinctions in both the highlands and the coast from the pre imperial times to Huari's fluorescence.

Cooney, Kevin

[39] *Central Lydian Lithic Technologies from the Upper Paleolithic through the Bronze Age*

Lithic evidence collected during the Central Lydia Archaeological Survey in central western Anatolia demonstrates marked increases in population and the complexity of relationships among and between local Bronze Age inhabitants. The production, procurement, and use of lithics during this period offer windows into societal changes and provide comparative data for understanding ceramic production and settlement pattern configurations. Similarities in the types, materials, and production methods of lithic tools recovered from numerous sites in central Lydia provide evidence of trade networks, uniform access to material, and shared production techniques throughout the periods represented.

Cooper, Diana [321] see Eldridge, Morley

Cooper, H (Purdue University)

[260] *Native Copper Metallurgy of Northern Athapaskans*

Athapaskans in Subarctic North America were practicing native copper metallurgy by at least 1000 years ago and continued to use this material after Euroamerican trade metal became available. This paper provides an overview of the use of native copper and examines its context within northern Athapaskan technology more generally, focusing on two regions, southcentral Alaska and southwestern Yukon and the central Canadian Arctic and Subarctic.

[260] *Chair*

Cooper, Jago (Institute of Archaeology, UCL), Jorge Ulloa Hung (Social Science Department of the Dominican Republic Technology Institute) and Roberto Valcárcel Rojas (Department of Archaeology, Cuban Ministry of Science, Technology and Environment)

[240] *Modelling Mobility and Exchange in Pre-Columbian Cuba: GIS led approaches to identifying pathways and reconstructing journeys from the archaeological record*

This paper will discuss attempts to model movement and exchange between pre-Columbian sites in Cuba using new archaeological evidence recovered during recent fieldwork. A case study of 102 archaeological sites from a 9,280 km² area in northern Cuba is investigated. GIS applications are used to produce cluster analyses, viewshed analyses, surface cost maps and simulated journey models. These spatial analyses compare water and land based movement between different locales. This provides predictive models of potential pathways through the landscape based on journey time and distance data. These potential pathways are then correlated with site distribution patterns at different spatial scales.

Cooper, Jason (Jones & Stokes) and Shane Sparks

[105] *Data Recovery Excavations within the Howard Hanson Dam Archaeological District, King County, Washington*

In 2006, Jones & Stokes completed archaeological fieldwork within the Howard Hanson Dam Archaeological District (HHDAD). Located east of Seattle near the City of Enumclaw, Washington and the Green River, the HHDAD represents a generalized Archaic occupational sequence that is found west of the Cascades Mountains. Jones & Stokes conducted data recovery excavations at four sites within the HHDAD and updated site records for ten other sites. Two additional sites within the district were investigated in an effort to quantify the rate of erosion that has taken place since 2001 when an erosion monitoring system was deployed.

Cooper, Judith (Southern Methodist University)

[308] *Examining ecological relationships in the Late Holocene: a large-scale analysis of bison use in the Great Plains*

In the Late Holocene record for the northern Great Plains, large communal kill sites are common and suggest an economy centered on bison. Intensification in bison hunting is not likewise documented elsewhere in the plains, especially in the south, where large kills are rare, despite similar access to herds. In an effort to explain this disparity, a comprehensive database of bison kill and processing sites was compiled. Using a behavioral ecological approach, I test if hunting and butchering/processing strategies reflect adaptations to geographically-dependent environmental conditions. Specifically, I explore how spatially variable requirements for essential nutrients mediated prehistoric foraging decisions.

Cooper, Leslie (Monticello), Derek Wheeler (Monticello), Jillian Galle (Monticello) and Karen Hutchins (Boston University)

[124] *Uncovering Jamaican slave villages through spatial survey: methods and results*

For decades, archaeologists have investigated slavery in the Caribbean by excavating single house sites located within much larger slave villages. These projects have provided detailed information on individual households yet they are unable to answer comparative questions about village-wide social, economic, and subsistence strategies. In 2007, the Digital Archaeological Archive of Comparative Slavery initiated a novel approach to Caribbean slave villages by undertaking a systematic shovel-test-pit survey at an eighteenth-century slave site in Jamaica. Spatial analysis and detailed mapping demonstrates that STP survey is a promising method for situating household variation within the context of large-scale village dynamics.

Cooper, Lisa (University of British Columbia) [268] Chair

Copeland, Sandi (Max Planck Institute for Evolutionary Anthropology), Julia Lee-Thorp (University of Bradford), Matt Sponheimer (University of Colorado at Boulder), Mike Richards (Max Planck Institute for Evolutionary Anthropology) and Vaughan Grimes (Max Planck Institute for Evolutionary Anthropology)

[218] *Strontium isotope ratios across a South African landscape: a basis for interpreting hominin land-use*

Strontium isotope ratios in hominin teeth are often used to identify migration patterns. However, the precise mechanism by which $^{87}\text{Sr}/^{86}\text{Sr}$ moves from the environment through the food chain to hominin tooth enamel ('biologically available strontium') is poorly understood. We analyzed $^{87}\text{Sr}/^{86}\text{Sr}$ ratios in rocks, soils, plants, and animals from many sampling localities across the Sterkfontein Valley, South Africa, an area with highly variable bedrock $^{87}\text{Sr}/^{86}\text{Sr}$ ratios. We were then able to identify which materials were good indicators of "biologically available" strontium. We also report comparisons between the traditional solution preparation method with the less destructive laser ablation method.

Copeland, Sandi [35] see *Sponheimer, Matt*

Coppa, Alfredo (University of Rome), Andrea Cucina (Universidad Autónoma de Yucatán, Mérida, México, 97305), Domenico Mancinelli (University of L'Aquila, L'Aquila, Italy), Michaela Lucci (University of Rome "Sapienza", Rome, Italy, 00185) and Rita Vargiu (University of Rome "Sapienza", Rome, Italy, 00185)

[99] *Human paleo-biological studies in Italy: historical tendencies and recent perspectives*

The earliest studies on anthropological skeletal remains in Italy coincide with the establishment of the first university chairs in Physical Anthropology in the half of XIX century. The Italian archaeologists, have dug up a lot of anthropological remains also during the following XX century, which could have been fruitfully be studied. Unfortunately, the poor cooperation between the two disciplines failed to fertilize the development of a interdisciplinary perspective for the reconstruction of the ancient past until the seventies, with only a few exceptions. In recent time, archeo-anthropological research has been strongly developed, both for Italian and foreign skeletal collections.

Corbett, Debra (US Fish & Wildlife Service), Daryl Domning (Howard University) and Mark Clementz (University of Wyoming)

[36] *Aleutian Sea Cows: Fact or Fancy?*

Since 1997 bone fragments identified as Stellers Sea Cow have been recovered from archaeological sites in the Aleutian Islands. It has been thought that human predation drove these animals out of inhabited areas to their last refuge in the Commander Islands. Within 26 years of their discovery by Russian explorers they were extinct. The possibility that Sea Cows co-existed with prehistoric hunters suggests something besides direct predation led to their decline. We detail our efforts to confirm their presence in prehistoric sites and discuss human interactions with the animals, posing an alternative explanation for their limited historic range.

[294] see Hanson, Diane K.

Corbett, Jack (Portland State University) [151] Discussant

Corbin, Annalies [70] see Angel, Julie R.

Cordell, Craig (Idaho State University), Buck Benson (Idaho State University), Herbert H. G. Maschner (Idaho State University) and Matt Betts (Canadian Museum of Civilization)

[220] *Sandy Dunes: A 4000 year old Aleut Village on Sanak Island, Alaska.*

Stretching for nearly a kilometer along an abandoned shoreline, XFP-054 is a large, multi-component Aleut village dating between 4200 and 3600 BP. The most spectacular aspect of this site is that the top 20cm of sod has been deflated leaving houses, middens, activity areas, artifacts and other features exposed on the surface, but with nearly a meter of intact stratigraphy subsurface. Both stone and bone tool types place this site with contemporaneous villages from Kodiak Island to Unalaska. This preliminary analysis of intrasite spatial and temporal variation at XFP-054

Cordell, Kirk (NCPTT)

[25] *Heritage Resource Management Through Training and Technology*

The management of heritage resources has been substantially advanced in recent years by the transfer of new technologies into the various fields of inquiry that comprise historic preservation. With the creation of the National Center for Preservation Technology and Training (NCPTT) within the National Park Service in 1992, a concerted effort has been made to overcome the bias of most preservation practitioners in favor of strictly traditional methods to bring technologies from other industries and the academy into heritage resource management. NCPTT and its partners also systematically explore traditional technologies to identify contemporary applications and reestablish lost craft traditions.

Cordell, Linda (School for Advanced Research) [20] Discussant

Cortegoso, Valeria, Gustavo Lucero (CONICET- Universidad Nacional de Cuyo-Fac. Filosofía y Letras) and Víctor Durán (CONICET- Universidad Nacional de Cuyo-Fac. Filosofía y Letras)

[57] *Early and middle Holocene Sites in the Andes Cordillera between 29°- 33° S: An assessment of changes reflected in the organization of lithic technology*

The sites presented here contain stratigraphic sequences that permit investigations of mountain environment colonization during the early- and mid-Holocene, as well as studies of technology and mobility during the mid-Holocene. We present a comparative study of the organization of lithic technology at three sites: Agua de la Cueva (9400-7400BP) and El Piedrón (5500-4500BP) in Mendoza Province, and Las Taguas 18 in San Juan, which together span the whole of the Holocene. Regional paleoclimatic data, microenvironmental conditions and population dynamics from both slopes of the Andes are combined with the lithic data to address the mid-Holocene archaeological record.

Cortegoso, Valeria [241] see Duran, Víctor Alberto

Cortez, Constance

[136] *From Maya Drag to Guillermo Gómez-Peña's New Skirt: Gender Performativity in Contemporary Latino/a Art*

As in ancient Maya visual culture, the consideration of gender in contemporary Latino/a art can be central to the exploration of both cultural and political identity. Aspects of the opposite ontological core gender may be assumed by artists for the purposes of acquiring the power associated by society with that gender. However, in other instances the act of gender performance functions as a critique of a reified notion of gender. This paper explores gender performativity as it is manifested in contemporary art and its relation to resistance in ongoing social discourses.

Cosgrove, Richard [75] see Pike-Tay, Anne

Costin, Cathy (California State University)

[178] *Material Symbols of Status, Class, and Power in the Inka Empire*

I report an on-going stylistic analysis of Late Horizon ceramics and textiles, focusing on the production and use of variants of Inka style objects and Inka-local hybrids. Despite the received wisdom suggesting that Inka material culture is homogeneous, many recent analyses indicate there is a tremendous amount of stylistic micro-variation. I suggest this reflects conscious communication about origins and identity in an empire characterized by an extremely complex bureaucratic "class" system based largely on regional origins and ethnicity. The paper considers more generally whether classes based on ethnicity are classes in the Marxian sense. While not predicated on wealth, they relate strongly to access to power, wealth, and the means of production.

Costion, Kirk (University of Pittsburgh)

[263] *Formative Period Social Differentiation in the Middle Moquegua Valley: A View From the Huaracane Site of Yahuay Alta*

This paper discusses the first substantial investigation of residential areas at a Huaracane Tradition (385 BC–AD 340?) site designed to evaluate the nature of social differentiation and leadership in the Huaracane population. This investigation entailed an extensive systematic surface collection and large-scale horizontal excavations of residential terraces at the site of Yahuay Alta, located on a series of high ridges in the upper section of the middle Moquegua Valley. Preliminary results will be discussed in light of what they reveal about Huaracane social organization, focusing specifically upon the nature and extent of social differentiation exhibited at Yahuay Alta.

Costopoulos, Andre (Anthropology Department)

[137] *Integrating and comparing results from simulations at different scales*

Using the results of two agent-based models working at different chronological and demographic scales, I show that rates of change influence the capacity of hominid-like agents to colonize new environments.

Cotter, Christopher [142] see Sobel, Elizabeth A.

Counts, Derek (University of Wisconsin-Milwaukee)

[268] *What a Tangled Web We Weave: 'Postcolonial' Entanglements in Ancient Cyprus*
The material culture of first millennium B.C.E. Cyprus is the product of a series of archaeological horizons between the 12th and 9th centuries B.C.E. defined by the introduction of both Greek and Phoenician speaking peoples to the island. The productive capacity of these (and earlier) entanglements is characterized by sculpted images that represent the hybridization of existing cultural (and cultic) traditions. In the context of Cypriote religious iconography, a postcolonial approach exposes novel identities that navigated the boundaries between diverse communities and negotiated meaning in the context of local sanctuaries and their patrons, regardless of any original significance.

Coupland, Gary (University of Toronto)

[175] *Communalism, the Forgotten Dimension of Northwest Coast Social Structure*
Northwest Coast scholars have been preoccupied with the study of hierarchy in the transegalarian societies of the culture area. Communalism, an important dimension of Northwest Coast social structure, has been understudied. Using ethnographic and archaeological evidence of household organization, an inter-regional comparative analysis shows that communalism was not emphasized to the same extent among all Northwest Coast societies. Perhaps surprisingly, the strongest evidence for communalism is found in Northwest Coast societies that are also known to have been most hierarchical. This suggests that relationship between hierarchy and communalism on the Northwest Coast may have been covariant.

[148] *Discussant* [288] *Discussant*

Courcier, Antoine (UMR 7041)

[272] *The ancient metallurgy during the Early Bronze age in the southern part of the CAUCASUS: recent results from excavations and survey in Western Azerbaijan*
Recent franco-Azerbaijan excavations of kurgans at Soyuz Bulaq has permitted to underline the beginnings of metallurgy in the Caucasus. In two kurgans, many metal objects have been discovered. They illustrate the high level of manufacturing metallurgy of the 1st of the IVth millennium in this area. Indeed, the joint analytical project between the laboratories of Bochum and Bakou has clearly demonstrated the sophisticated techniques of the manufacture of these artefacts. Analyses prove the use of an uncommon alloy – auriferous silver. A survey is planned soon in several districts in order to define the origin of the ores used.

Court, Emily (University of Toronto)

[215] *Storage and Organization in a Chalcolithic Village: Micromorphology at Tel Tsaf, Israel*

Four years of excavation at the Chalcolithic site of Tel Tsaf, Israel has uncovered a number of circular, paved mud-brick structures. These structures are present during all excavated occupation phases. Preliminary interpretation suggests that these structures were storage silos. They are found in association with either circular or rectangular buildings in courtyard structures. During the 2007 season, one of the multi-phase 'silos' was sectioned, and a full sequence of micromorphology samples taken. The section was almost one metre in height with evidence of multiple floor and fill levels. The results of the micromorphological analysis will be discussed.

Coutts, Karen (University of Florida), Alejandro Chu (Proyecto Arqueológico Bandurria (PAB)), John Krigbaum (University of Florida), Karen Wise (The Natural History Museum of Los Angeles County) and Ruth Shady Solis (El Proyecto Especial Arqueológico Caral-Supe (PEACS))

[83] *Fishing for Answers in the Desert: Assessing the role of marine dietary resources in coastal Pre-ceramic Peru using light stable isotopes*

In 1975 Moseley countered traditional models of cultural evolution by hypothesizing that maritime resources were the primary dietary resource in the rise of civilization in ancient

Peru in the absence of large-scale agriculture. We test this hypothesis by analyzing stable isotope ratios of carbon, oxygen, and nitrogen from four coastal Pre-ceramic archaeological sites in Peru. Preliminary fieldwork and analysis indicate good potential to clarify dietary regimes using human/faunal bone and tooth samples. Results will be framed against regional studies and contribute to the on-going debate about whether these early complex societies arose with or without heavy reliance on agricultural staples.

Couture, Nicole (McGill University)

[134] *Talking Heads and the Grateful Dead: unpacking the meaning of trophy heads at Tiwanaku*

Depictions of severed human heads in Tiwanaku art and iconography suggest that the taking of trophy heads was an integral part of Tiwanaku warfare and/or ritual violence. In this paper I address the question: Why were heads taken (as opposed to some other body part)? I will argue that targeted forms of violence, such as the taking of trophy heads at Tiwanaku, can only be understood in terms of the meaning of the human body vis-a-vis culturally specific notions of the self and the social person, in addition to beliefs about cycles of life, death, and social reproduction.

Cova, Elisabetta (University of Wisconsin-Milwaukee)

[300] *Museums on Display: The Civic Museums of Northern Italy between Past and Present*

The second half of the 19th century witnessed the foundation of several Civic Museums in northern Italy. From the beginning, museums in Bologna, Modena and Reggio Emilia were established to document the history and cultural identity of their communities with an emphasis on local archaeological material. Today, these museums still fulfill their role as cultural mediators for local communities despite the decision to maintain the original displays of their archaeological collections -- displays which offer a unique view of 19th century museum practices. This paper examines how these museums preserve their institutional past, while serving the public in the present.

Covey, R (Southern Methodist University), Brian Bauer (University of Illinois, Chicago) and Miriam Araóz Silva (COARPE)

[13] *Interdisciplinary Definitions of a Royal Inka Estate*

Researchers have used architectural remains and written sources to identify the estate of Wayna Qhapaq in the Urubamba Valley to the northwest of Cusco, Peru. Recent documentary studies and intensive regional survey data augment elite-oriented perspectives on the estate by providing data on preexisting settlement patterns, as well as identifying agricultural intensification projects, storage facilities, and associated non-elite occupations. This paper will summarize recent research and synthesize it with previous studies to consider this estate in a more holistic manner.

Covey, R. Alan [13] see Quave, Kylie E.

Cowgill, George (School of Human Evolution and Social Change)

[277] *Reassessing the Classic to Epiclassic Transition at Cerro Portezuelo, Basin of Mexico*
In the 1950s, when the Basin of Mexico ceramic sequence was poorly known, Cerro Portezuelo pottery seemed to have good evidence of a transition from terminal Teotihuacan to a full-blown Epiclassic complex. Re-examination of the data in light of more recent knowledge confirms that Teotihuacan-style ceramics are abundant there, but little of the Epiclassic complex can plausibly be derived from Teotihuacan antecedents, and much of it has more likely sources outside the Basin. A transitional complex remains elusive. The case for significant Epiclassic migration into the Basin of Mexico gains additional support from Cerro Portezuelo data.

[277] *Co-Organizer [180] Discussant*

Cox, Deborah C. [63] see Herbster, Holly

Crabtree, Pam (NYU)

[296] *Specialized herding practices in Middle Saxon England: Evidence from East Anglia*

The Middle Saxon period (ca. 650-850 CE) was a period of significant political, social, economic, and religious change in Anglo-Saxon England. One important feature of the Middle Saxon period is the appearance of the emporia, the first towns in post-Roman northern Europe. This paper will examine how pastoralists at the rural sites of Brandon in Suffolk and Wicken Bonhunt in Essex adjusted their husbandry strategies in response to the rise of the emporia and to the demands of the changing political structure of Anglo-Saxon England.

Craig, Doug [132] see *Hutira, Johna*

Craig, Jessica [97] see *Runggaldier, Astrid M.*

Craig, Joseph [207] see *Wright, Patti J.*

Craig, Nathan (The Field Museum)

[232] *Household changes during Late Archaic to Early Formative transition in the Rio Ilave, Lake Titicaca Basin, Peru.*

Though understanding the development of complexity requires knowledge of early cultural configurations, Andean Archaic households remain understudied. This paper examines Archaic-Formative transitional households from the sites of Pirco and Jiskairumoko, in the Rio Ilave. Excavations were recorded by photomapping, and dated by 30 radiocarbon assays. Activity areas were defined by unconstrained clustering of artifact distributions. These analyses revealed changes in: structure shape and spacing, storage, hearthside activity performance, kitchen furniture, external cooking facilities, and processing areas. Together, these trends indicate decreasing inter-household sharing and imply the development of greater inter-household economic independence at the onset of the Formative.

Craig, Nathan [147] see *Nelson, Katherine*

Crass, Barbara (University of Wisconsin) and Brant Kedrowski (University of Wisconsin- Oshkosh)

[275] *Residue Analysis of Bone Fueled Pleistocene Hearths*

Bone was the main fuel source for hearths associated with the earliest component (ca. 14,000 ybp) at Swan Point in Central Alaska. The greasy residue of burnt bone fragments and saturated fats mingled with the matrix were analysed, providing patterns of fatty acid methyl esters (FAMEs). The FAMEs, when compared to known controls, indicate the type of animal bone that fueled the fire. The resulting insights into diet and hunting practices of early humans in central Alaska will be discussed.

Crawford, Gary [22] see *Lee, Gyoung-Ah*

Creamer, Winifred (Northern Illinois University) and Jonathan Haas (Field Museum)

[83] *Monumental Architecture as Process: an Example from the Norte Chico, Peru*

Monumental construction begins in the Norte Chico region shortly after 3000 BCE. Recent excavations show near-continuous construction and remodeling of mound structures, while there is no evidence of craft specialization. Construction and wholesale remodeling provided a context for social gathering, feasting, a focus for ritual activity, exchange of resources. The continual building efforts on large ceremonial structures specifically suggest a ritual context was used to attract participants. However, cumulative large structures fostered centralized decision making as they grew to monumental proportions and coordination of labor became increasingly complex. This pattern of centralization expanded over time to include formalized site layouts.

Creaser, Robert [296] see *Arnold, Elizabeth R.; [274]* see *Buzon, Michele R.; [274]* see *Andrushko, Valerie A.*

Creekmore, Andy (Northwestern University)

[165] *Mapping the development of states in upper Mesopotamia: spatial analysis of Early*

Bronze Age settlement in the Harran Plain, Turkey

The development of urbanized states in third millennium upper Mesopotamia is most evident in their hierarchical settlement patterns and urban centers. Recent publication of survey data from the Harran Plain, Turkey, permits analysis of the development of states there. This paper presents a study of the Harran data using remote sensing, GIS and statistics to discern settlement patterns, political territories, sustaining areas, and communication routes. The results indicate that two primate centers at the core of two states worked in concert with numerous tertiary settlements to intensify agriculture and push the limits of their sustaining areas.

Creese, John

[207] *Explaining Sedentism and Domain Independence in Archaeological Inference*
The emergence of sedentism has been seen as a critical "moment" in prehistory, yet explanations of its development are often plagued by problems of circularity. The same evidence is frequently invoked to demonstrate sedentism and to explain its causes or consequences. In this paper, I employ multiple, relatively independent and direct lines of evidence to minimize circularity using diachronic, regional scale approaches. This case study of the Middle-to-Late Woodland transition in the lower Great Lakes provides a nuanced perspective on changes in mobility indicative of both long-term processes and periods of rapid cultural reorganization.

Crespo, Edwin [319] see Laffoon, Jason E.

Cressey, Pamela (Alexandria Archaeology) [103] *Discussant*

Cressler, Alan [258] see Simek, Jan F.; [258] see Blankenship, Sarah A.

Crews, Christopher

[156] *Lithic Exchange for a Small Samoan Village*
The village of Aganoa, Tutuila Island, American Samoa, was excavated in the summer of 2006. The site was occupied from 2500 ybp to the present with lithic material found in all strata. This paper deals with research involving Neutron Activation Analysis of the lithic materials to gain an understanding of which quarries were used as source materials by the inhabitants of this small village.

Crider, Destiny (Arizona State University)

[277] *Epiclassic and Early Postclassic Pottery Complexes at Cerro Portezuelo*
I examine influences on Cerro Portezuelo pottery complexes as a proxy for regional interaction. Pottery is assessed as to stylistic similarity with regional Coyotlatelco, Mazapan/Tollan, Aztec I and Chalco-Cholula Polychromes. Comparison of Cerro Portezuelo pottery with neighboring areas suggests an Epiclassic to Early Postclassic shift from southern to northern influences. The Epiclassic decorated pottery shares characteristics with the southern Chalco area; whereas the Early Postclassic decorated pottery has strong connections with northern complexes at Teotihuacan and Tula. This suggests that Epiclassic patterns of interaction within the Basin were altered by the emergent Early Postclassic Tula state.

Crider, Destiny [277] see Nichols, Deborah L.

Criss, Jonathan C. [129] see Munson, Cheryl Ann

Crock, John (University of Vermont)

[240] *Reconstructing Systems of Exchange During the Late Ceramic Age in the Northern Lesser Antilles*

Late Ceramic Age sites studied in Anguilla have produced high proportions and high volumes of non-local raw materials including greenstone, calcirudite, chert and ceramics. A system of exchange can be reconstructed through identification and quantification of materials exotic to the island, identification of Anguillian "exports" in sites on other islands, and estimation of other goods and information likely to have been transmitted across the

interisland system.

[196] *Co-Organizer*

Crockett, Earl [179] *see Terry, Martin*

Crockford, Susan (Pacific Identifications Inc.) and Gay Frederick (Pacific Identifications Inc.)

[36] *Mid-Holocene sea ice changes in the Bering Sea, inferred from archaeozoological analysis of pinniped remains from the Eastern Aleutians, explain prehistoric distribution of North Pacific marine mammals*

Comprehensive analysis of pinniped remains from a site in the Eastern Aleutians (Amaknak Bridge UNL050) documents profound changes to sea ice extent in the Bering Sea during the Neoglacial (ca. 4700-2500 BP). Our archaeozoological analysis focused particularly on determining species for arctic phocid postcranial remains and estimating ages for all young juveniles. We conclude that Neoglacial increases in sea ice extent inferred from this analysis must have had a profound impact on the distribution of all Bering Sea marine mammals but explains especially the mid-Holocene establishment of northern fur seal breeding rookeries along the west coast of North America.

Croes, Dale (S. Puget Sound Comm College), John Fagan (Archaeological Investigations Northwest) and Maureen Zehendner (Archaeological Investigations Northwest)

[188] *Sauvie Island National Historic Landmark Wet Site (35MU4), Portland, Oregon*
Archaeological investigations at National Historic Landmark wet site 35MU4 involved test units, cross-sectioning and bulk sampling of one fairly complete acorn leaching pit feature, surface mapping down to the waterline of all (a) in situ wooden stakes (n=34), (b) in situ acorn leaching pit features (n= 60), and (c) surface cultural materials, including lithics, animal bone, wood chips, basketry strips, and split wood. Approximately 6,400 artifacts were recovered (items resulting from human activity), of which 70% were wood and fiber items, 19 % were lithic, and 11% were faunal remains. The Higashimyo wet site, Kyushu, Japan, has similar comparative finds.

Croes, Dale [188] *see Ness, Olivia*

Cross, Guy [133] *see Sisk, Matthew*

Crossen, Kristine (U of Alaska), David Yesner (University of Alaska Anchorage) and Rita Eagle (University of Alaska Anchorage)

[275] *Geoarchaeological and Zooarchaeological Correlates of Eastern Beringian Lithic Assemblages*

Previous excavations in interior Alaska have yielded Nenana Complex assemblages (~12,000 to 9,000 C14 yr BP) in deep loess deposited on floodplain terraces. In the middle Tanana Valley calcareous loess deposits have resulted in excellent faunal preservation at some sites (e.g., Broken Mammoth). Work at the Little John site in the upper Tanana Valley, Yukon Territory provides a new geoarchaeological context for Nenana Complex sites: deeply buried swales between bedrock knobs above valley floors. Fauna associated with Nenana assemblages show the same pattern as in the middle Tanana Valley: domination by bison with secondary contributions by wapiti, caribou, a variety of small mammals, and birds.

Crossen, Kristine [256] *see Enk, Jacob M.*

Crossland, Nicole (University of Montana), Anna M. Prentiss (University of Montana), Art Adolph (Stl'atl'imx First Nation), Eric Carlson (University of Montana) and Ian Kuijt (University of Notre Dame)

[172] *The Traditional Seasonal Round in the Middle Fraser Canyon, British Columbia: Past and Present*

Recent archaeological data from excavations at the Middle Fraser Canyon sites of Keatley Creek and Bridge River in southern British Columbia highlight the diversity of food

resources utilized during late portions of the Plateau Pithouse Tradition (2000-200BP). The seasonal acquisition of these various resources continues to this day among First Nations groups. The traditional seasonal round is presented in this poster using a combination of archaeological evidence, ethnographic data, and contemporary imagery of these activities.

Crossland, Zoë (Columbia University)

[76] *The power of place: building authority in highland Madagascar*

Arriving in highland Madagascar in the 1820s, LMS missionaries embarked upon an ambitious school building programme, coordinated by the king, Radama. He selected the locations chosen for the schools and ordered the labour for their construction. In building the schools the mission challenged the traditional guardians of ancestral authority, but was also drawn into the stream of ancestral blessing through which Radama's authority was constituted. The mission construction illustrates the key role of the built landscape in Radama's renegotiation of his kingly authority and power, allowing him to undercut the influence of certain descent groups without articulating his project explicitly.

Crothers, George (University of Kentucky), P. Willey (California State University, Chico) and Patty Jo Watson (Washington University, St. Louis)

[258] *Mortuary Caves and Sinkholes in the Interior Low Plateaus and Southern Appalachian Mountains of the Eastern U.S.*

Caves and sinkholes were commonly used for mortuary rites and as burial chambers in the Eastern Woodlands. We identify three regions where such sites are prevalent: Cumberland Plateau in northern Georgia and Alabama, Valley and Ridge of east Tennessee and southwest Virginia, and Highland Rim of central Kentucky-Tennessee. We compare the burial pattern among these regions and demographic profiles between cave burial samples and contemporary surface cemeteries. Mortuary cave and sinkhole use was primarily a Middle Woodland and Late Prehistoric phenomenon, but each region is distinct in the types of karst features used and the burial patterns within them.

Crowell, Aron (Smithsonian Institution), Joe Liddle (University of Alaska Southeast) and Mark Matson (GIS consultant)

[194] *Patchiness and Complexity: Resources and Settlement Strategies for Gulf of Alaska Societies*

Settlement in areas of high resource diversity is proposed as an indigenous strategy for maximizing subsistence alternatives in response to climate-forced shifts in the marine ecosystem of the Gulf of Alaska (GOA) and Cook Inlet. A GIS analysis of ~2000 Alutiiq and Dena'ina coastal sites indicates concentration in unevenly distributed areas where at least ten major subsistence species were accessible. Pelagic and anadromous fish appear to represent alternative primary subsistence foci for cold and warm phases, respectively. The high "patchiness" of both resources and human populations influenced the social and political development of GOA societies.

[194] *Discussant*

Crowell, Aron [194] see Hutchinson, Ian

Crown, Patricia (University of New Mexico)

[140] *Chacoan Cylinder Jars*

There are only 210 known ceramic cylinder jars in the prehispanic American Southwest, and 192 of these come from Pueblo Bonito in Chaco Canyon. Because of their unusual shape and limited distribution, these vessels have received more attention from archaeologists than virtually any other artifact category. New research reveals insights into their production, use, and discard in Chaco.

Crown, Patricia [140] see Borck, Lewis S.

Crumbley, Norma (SWCA Environmental Consultants) and Krista Bedingfield (SWCA Environmental Consultants)

[308] *These Nine Walls: Further Investigations of the Destination Game Drive Concept in Wyoming*

Destination game drives are high-profile, durable constructions that tend to be utilized recurrently and maintained for repeat usage in select landscapes. This analysis of one such game drive complex explores construction methods, use of materials to define game paths and kill zones, analysis of landowner collections, and dating methods to synthesize what groups periodically congregated at this destination and when. The Site 48LA207 complex consists of nine stacked stone walls approximately 25 miles west of Cheyenne, Wyoming. Additional consideration of similar game drives in the region lends further context for consideration of these stone walls under the 'destination' concept.

Cruz, M. Dores (College of William and Mary)

[201] *Portugal de Aquém e Além-Mar*: material culture and Portuguese colonialism (1926-1974)*

Colonialism became central in the archaeology of European expansion and its consequences. But while colonial experiences vary according to specific chronological and geographic contexts—as well as colonial power—the concept of colonialism is often presented abstractly or through the lens of British colonial experience. Going beyond a monolithic approach, this paper examines an example of colonial materiality outside the English case, as manifested in Portugal and Mozambique during the period of 1926-1974. It explores how the colonial, fascist, and Catholic ideology of Portuguese Estado Novo (New State) was materialized to construct a unified "motherland" that embraced metropole and colonies.

[201] Co-Organizer

Cruz, Maribel [185] see Martinez, Jupiter

Cruz, Rafael [34] see McGuire, Randall H.

Cruz Antillón, Rafael [185] see Maxwell, Timothy D.

Cucina, Andrea [291] see Tiesler, Vera G.; [99] see Coppa, Alfredo

Cuellar, Andrea (University of Lethbridge)

[200] *An Investigation of Social Complexity at a Late Period Community in the Eastern Andes of Ecuador*

Based on the spatial reconstruction of house groups and activities in a Late Period community in the Eastern Andes of Ecuador, I examine theoretical approaches to the understanding of complex societies that focus on the community and household as core arenas for the development of social and economic differentiation. I seek to understand the emergence of an unusually large Late Period community in the Quijos Valley as a new type of social configuration in the region through a comparison of household groups, analysis of community spatial patterns, and exploration of dynamics such as craft and ritual specialization.

Cui, Yinqiu, Chengzhi Xie (Jilin University), Hui Zhou (Jilin University), Shizhu Gao (Jilin University) and Shubai Liu (Jilin University)

[256] *Reconstructing the Genetic History of Xinjiang Populations Using Ancient mtDNA Sequences*

The mtDNA HVR-I of 54 skeletal remains (3800-1800BP) from Xinjiang were analyzed and the results show that prior to the Han dynasty, there existed a countermovement of European and East Asian lineage migrations, and it appears that the European lineage was the more prevalent one then. Afterwards, a decrease in the west Eurasian lineage frequency was observed in the ancient Xinjiang population. The genetic distance and admixture data show that the earlier the appearance a population in history, the higher its European lineage frequency. This distribution pattern was in good agreement with the historical and archaeological records.

Culleton, Brendan, Douglas Kennett (University of Oregon) and Keith Prufer (University of New Mexico)

[197] *Classic Maya Landscape Modification in Southern Belize: Potential Soil and Water*

Management Features at Uxbenká

The emergence and expansion of ancient Maya polities involved substantial landscape modification to support intensive agriculture, thus altering soil and water systems near urban centers. Whether and how negative effects of such transformations were mitigated influenced the long-term evolution of individual polities. Several features investigated at Uxbenká in 2007 may reflect soil and water conservation strategies: potential plastered stream channels; stone-lined seeps; and, terraces or soil-retention structures excavated into bedrock. Preliminary data suggest the soil-retention structures were excavated before ~AD 500, and began to accumulate colluvium after ~AD 880, consistent with declining elite resource management at Uxbenká's abandonment.

Culleton, Brendan J. [36] see Jones, Terry

Cummings, Linda (Paleo Research Institute, Inc.)

[224] *Climate and Proxy Records: The Importance of Archaeoclimatic Modeling*
Reconstructing paleoenvironments from any proxy record or multiple proxy records presupposes that we understand the local parameters and have vivid imaginations to recreate scenes of the past under conditions different than those with which we have lived. Although it is easy to picture hotter or colder conditions, differences in seasonality, season of precipitation, ice melt, and river discharge are often more difficult to imagine. The dynamic interplay between proxy records and associated archaeoclimatic models is essential to understanding the landscapes and conditions under which people lived and made their decisions.

Cummings, Linda [115] see Baadsgaard, Aubrey

Cummings, Linda Scott [66] see Puseman, Kathy; [224] see Varney, R. A.

Cunnar, Geoffrey (Human Relations Area Files), Anne Underhill (Field Museum), Fengshi Luan (Shandong University), Haiguang Yu (Shandong University) and Hui Fang (Shandong University)

[24] *Experimental archaeology in the People's Republic of China: Results of replication and use-wear analysis at the late Neolithic site of Liangchengzhen*
Recent excavations by a Sino-American team at the Longshan Period site of Liangchengzhen, China has uncovered thousands of ground and polished tools and associated debris. Replication experiments followed an ethnoarchaeological study of modern farming implements in the region of Liangchengzhen. This research has elucidated the function, production technology and organization of production of utilitarian stone tools. The dao (knife) and lian (sickle) were used extensively as harvesting implements. This paper addresses the respective function of these two harvesting implements with regards to the harvesting of rice and millet through the several hundred year Liangchengzhen occupation.

Cunningham, Jerimy (The University of Calgary)

[72] *Gender, Power and Domestic Space in the Inland Niger Delta (Mali)*

I outline how gendered spaces in contemporary households from the Inland Niger Delta of Mali contribute to the creation of women as fully-matured selves. Within the polygynous households in which women live, the ante-chambers of women's apartments are intermediary spaces in landscapes of both supernatural energy (nyama) and domestic power. Here, women enlist the materiality of trousseau items to redefine their selves as they emerge from the liminality of marriage. The materiality of the goods displayed in these locations enables women to renegotiate claims made on their labor and resources by their husbands and his kin.

Cunningham, Kevin (Delaware Dept of Trans.) and Danica Ziegler (Greenhorne & O'Mara)

[132] *Ceremonial, Ritual and Cultural Adaptations and Monumental Architecture*

The Dodge Dealers 400 NASCAR Nextel Cup at Dover Downs "Monster Mile" International Speedway provided the experiment for archeological investigations utilizing current pre-

contact site methodologies, theories and interpretations. Dover Downs a monumental speedway attracted over 140,000 people twice a year to Dover, DE, population 35,000. Observations, measurements, analyses, oral interviews and interpretations were conducted during the race weekend September 21 - 23, 2007. Consultation took place with the Nanticoke Indian Association and Lenape Indian Tribe of Delaware to solicit their impressions about this study in order to obtain their interpretations and meanings as they reflected upon previously conducted archeological excavations at an adjacent landscape. Pre-contact and 21st century trajectories are compared, with differences and similarities discussed.

Cunningham, Penny (Department of Archaeology)

[24] *Cache or carry: food storage in the Mesolithic of northern Europe.*

Within European prehistory, food storage practices are mainly associated with the large-scale storage of cereal grain by sedentary communities. However, ethnographic evidence of storage shows that both hunter-gatherers and farmers practiced a wide variety of storage methodologies including the use of caches. Through a series of hazelnut and acorn storage experiments, this paper explores the use of storing food in caches during the Mesolithic. The results from these experiments demonstrate that the small-scale storage of nuts in caches may have been a vital and important mechanism enabling Mesolithic people to be nomadic.

Curatola Petrocchi, Marco (Pontificia Universidad Católica del Perú, Departamento de Humanidades)

[13] *The use of documentary sources in Andean protohistoric archaeology: some different cases*

This paper starts with the analysis of the various meanings of the term "ethnohistory" and of the different kinds of documentary sources of this field of study, and tries to sketch out a survey about the way these sources have been a fundamental component and reference for the Andean protohistoric archaeology, since its origins. Also, it seeks to explore the potentialities, for the archeological research of Andean protohistory, of a type of source, the "pleitos", that in a certain way represent nowadays for the ethnohistorians what the visitas represented in the sixties and seventies of the last century.

Curet, Antonio [15] see Torres, Josh M.

Curet, L. (The Field Museum)

[196] *The Taíno Concept From a Sociopolitical Perspective*

The Taíno term and concept has traditionally been used as a designation of some form of cultural identity of the groups that occupied the Greater Antilles at the time of Contact. From this perspective it is argued that these groups shared a cultural background because of a common ancestry or intense cultural interaction. One issue with this perspective is that it ignores the social and political factors that were active at that time. This paper discusses the concept and term of Taíno from another dimension by considering sociopolitical aspects of these groups including elite interaction.

[196] *Chair*

Curet, L. Antonio [319] see Laffoon, Jason E.

Currie, Douglas (Mashantucket Pequot Museum)

[65] *Preservation, Access, and the use of Archaeological Collections for Education*

For the Mashantucket Pequot Tribe cultural heritage materials recovered during archaeological excavations on their reservation are of central importance and require diligent preservation for future generations. Under a National Science Foundation Informal Science grant the Mashantucket Pequot Museum and Research Center has developed an educational program using archaeology as a pathway to science learning allowing student access to archaeological collections while maintaining preservation of this finite and irreplaceable resource as a key issue. This has been accomplished through the use of examination mounts for artifacts, an inventory system appropriate for the classroom, and incorporating an educational component on preservation.

Curtis, Matthew (University of California, Santa Barbara)

[76] *Temples, Altars, and Offering Tables: First Millennium B.C.E. Elite Group Identity and Authority in the Northern Horn of Africa*

A variety of archaeological and historical evidence suggests that during the first millennium B.C.E. some elite members of Pre-Aksumite period highland communities of the Northern Horn of Africa appropriated new forms of ceremonial material culture, iconography, religious architecture, and inscriptional titles drawn from the wider southern Red Sea world in the effort to legitimate claims to political preeminence. The archaeological and epigraphic evidence for these elements of authoritative power and their possible roles in the development, maintenance, and transformation of elite identities are assessed, with particular attention paid to examining inalienable objects and the control of ritual knowledge.

Cushman, David (SRI Foundation) [103] Discussant**Cutright, Robyn (University of Pittsburgh)**

[232] *Household Diet and Cuisine on the Outskirts of Empire: A View from the Late Intermediate Period Jequetepeque Valley*

Households organize often conservative, traditional activities like subsistence production, food preparation, and child-rearing. Yet households are also places where family economic and political strategies are materialized in the context of external political, social, environmental, and economic conditions. Here, I select one traditional household activity, "food preparation and consumption," and investigate how choices about diet and cuisine at Pedregal, a Late Intermediate Period village in the Jequetepeque Valley, were shaped by local strategies as well as wider political and ecological imperatives. I suggest that Chim imperial strategies in the Jequetepeque were only one of multiple forces to which household organization responded.

[232] Co-Organizer

Cutright-Smith, Elisabeth

[12] *Modeling Ancestral Hopi Agricultural Landscapes: Applying Ethnography to Archaeological Interpretations*

In this paper, historic Hopi ethnographic data are employed to model ancestral Hopi agricultural land use through the lens of archaeological landscape theory. The model constructed integrates the physical, social organizational, ritual/ceremonial, and traditional history dimensions of historic Hopi agricultural land use and suggests durable, archaeologically-visible, material correlates thereof. This holistic model is applied to archaeological data from the Homol'ovi Ruins State Park (HRSP), northeastern Arizona. The integrative model allows for the interpretation of relationships between archaeological features representing different land use behaviors and the conceptualization of linkages between landmarks in the ancestral Hopi agricultural landscape.

Cutrone, Daniel (California State University At Los Angeles)

[225] *The Spirit Bird Cave Model and the Interpretation of Ballroom Cave, Southeast Utah*

The Spirit Bird Cave paradigm, in which emergence cosmology and sacred landscape play important roles in the validation of Puebloan centers, will be used to interpret a large sandstone alcove located in southeastern Utah. Known locally as Ballroom Cave, the site contains extensive modifications yet shows limited evidence of habitation. The importance of the cave is further reflected in architecture that appears to have functioned ceremonially. Current data suggest that the site may have served as a major religious shrine and meeting place for the nearby prehistoric settlements of the Comb, Butler and Cottonwood drainages.

Cybulski, Jerome [223] see Malhi, Ripan

Cyr, Howard (The Department of Archaeology), Andrea Freeman (University of Calgary), Calla McNamee (University of Calgary) and Leslie Amundson (Stantec)
[308] *A Geoarchaeological Examination of the St. Louis Site: Reconstructing Landscape and Vegetation through Multiple Proxy Indicators*

The St. Louis site, located along the South Saskatchewan River, Canada, is a multiple component site consisting of stratified weakly developed soils marking periods of reduced deposition, episodic stability, and human occupation. The human occupation at the St. Louis site spans the Paleoindian to Middle Prehistoric periods, a time poorly represented archaeologically on the Northern Plains. This study employs sediment, stable isotope, microstratigraphic, and phytolith evidence to reconstruct the prehistoric landscape and vegetation of the site. A combination of geologic, environmental, and cultural data offers insight into human occupation of the region during a period of presumed environmental variability.

Czerniak, Lech [276] see Marciniak, Arkadiusz

Daehnke, Jon (Stanford University)

[142] *Contact in the Longue Duree: Archaeological Practice and the Colonial Legacy of Contact*

The use of the term "contact" often creates an image of short-term encounters between different cultures. As a result our corresponding research focuses on the relatively brief period of time just before and shortly after initial contact. In the context of North America, however, "contact" almost always occurred within a colonial framework and these colonial encounters created long-term entanglements that lasted far beyond initial contact. Using research along the Columbia River, I argue that we should expand our view of "contact archaeology" to include the long-standing effects of colonial encounter, including how colonialism is manifest in current day archaeological practice.

[142] Chair

Dahlin, Bruce [187] see Hutson, Scott R.

Dalan, Rinita [54] see Hargrave, Michael L.; [221] see Holley, George

Dale, Vanessa [223] see Lee, Esther J.

Dale, Virginia [289] see Foster, Thomas

Dallimore, Audrey [230] see McKechnie, Iain

D'Altroy, Terence (Columbia University) [13] Discussant

Dambach, Katie (University of Massachusetts Amherst)

[164] *Show up, Sit down, Tune out: How to Keep Students Engaged in Our Classrooms*
The average attention span of an adult is considered to be about twenty minutes. So how do we keep the attention of our students in classes that range from sixty minutes to three hours? A case study of a once a week, three-hour evening class will be presented here. Some possible strategies and tips on how to keep students engaged throughout an entire class will also be given.

Damblon, Freddy [94] see Nigst, Philip R.

Dan, Carrie (Kamloops Indian Band)

[18] *Methods and Ethics in Western Science and Indigenous Archaeology*

Since the beginning of colonial history, western science has dominated archaeology with western knowledge structures. Indigenous archaeologists are a new aspect to the lens of archaeology. The cultural materials that archaeologists investigate are only one aspect of understanding peoples. Indigenous archaeology has multiple elements of connections to the past. Western science has been hesitant to include some of these methodologies, as

they are labeled experimental and unquantifiable. Indigenous archaeologists are constantly dealing with conflicts over resources and land altering developments. Western science includes indigenous field assistant participation, but exclude indigenous interpretation, reporting and recommendations.

Dancey, William (Ohio State University) and Patrick McCutcheon (Central Washington University)

[219] *The Archaeology of Root Procurement and Processing in the Hinterlands of the Vantage Region, Middle Columbia River*

Hinterland procurement and processing of root crops is well-documented in the ethnographic literature of the Columbia Plateau, but not so well in the archaeological record. Isolated cases have been sampled, but comprehensive surveys are rare. In 1974, Dancey directed a 10 week survey and testing project concentrated in the upper reaches of Quilomene Canyon in the Vantage Region of the Middle Columbia River. Massive quantities of lithics were documented along with data on hopper mortar bases. McCutcheon combines these data with recent ethnographical and archaeological work to evaluate the intensity of root digging in prehistory in this region.

Dancey, William S. [50] see *Nolan, Kevin C.*

Daneels, Annick

[150] *Centro De Veracruz Y Totonacapan: Conceptos No Equivalentes*

Desde los años treinta, con Palacios y Krickeberg se ha ido proponiendo la equivalencia entre el concepto de Centro de Veracruz (como unidad cultural) y Totonacapan (como unidad cultural, étnica y lingüística), situación que se formaliza con Melgarejo Vivanco y Medellín en los años cuarenta y cincuenta. Hoy en día se volvió casi un dogma, mientras la investigación arqueológica reciente se está distanciando cada vez más de esta interpretación, obligando a nadar contracorriente.

Daneshvari, Shamsi [20] see *Edgar, Heather J.H.*

Daniel, Randy (East Carolina University)

[53] *Core Types and Toolkit Provisioning at the Pasquotank Site in Northeastern North Carolina*

Understanding how core technologies were organized continues to provide insight into prehistoric forager adaptations. The role both bifacial and non-bifacial cores played as part of a mobile toolkit are explored in an analysis of the Pasquotank site Paleoindian stone tool assemblage from northeastern North Carolina. In particular, the assemblage was designed such that it could be used to procure resources some distance from where the toolkit was provisioned. Tool design and the staging of manufacture, use, and reuse balanced the constraints of mobility with the need to have a usable tool at a specific time and place.

Daniels, James and Carl Lipo (California State University Long Beach)

[11] *Digital Image Processing of Shell Temper Variability in Late Prehistoric Ceramics*

The method employed in this study provides an economic and accurate method for obtaining quantitative measurements on the shape, size, density, and orientation of shell temper in prehistoric ceramics. Using a digital microscopic camera and digital image processing software, variability of shell temper in sherds from seven different sites in the Lower Mississippi River Valley is analyzed. Digitally processing images of the matrices of the sherds allowed us to isolate the shell temper particles and measure variability in shell temper size, shape, orientation, and density which were used as a measure of ceramic technology, style and function. Results from analyzing shell temper in this fashion show a correlation between temper size, density, and vessel wall thickness. Temper orientation and stylistic variability in decorated sherds across assemblages are shown to exhibit similar patterns.

Darby, Melissa (Lower Columbia Research & Archaeology)

[239] *Old John's Skillet: An Artifact possibly from the Corps of Discovery*

Any discovery of an artifact potentially associated with the Lewis and Clark Expedition must

be viewed with a healthy dose of skepticism. This is especially true for archaeologists—reputations can be made or dashed to ruins on such claims. Hence, I present an artifact that I can only say, may--or may not, be associated with the Corps of Discovery. Several intriguing but equivocal bits of evidence exist that support the possibility—not the least of which is the artifact itself. The artifact is a three-legged cast iron camp skillet that belonged at one time to Old John, a Klickitat Indian.

Darling, J. Andrew

[15] *Early Twentieth Century O'odham Migration and Population Reorganization: An Archaeological Perspective*

The socio-political underpinnings of the Yaqui Diaspora have long been recognized in the establishment of enclave communities north of the Mexican border. Parallel migration of O'odham into Arizona, which relied on social networks for movement onto existing reservations, has gone relatively unnoticed. Archaeological implications of O'odham migration are examined, including processes for translation of landscape ideologies to new areas. Traditional O'odham song practices can be an expression of cognitive geography. Song transformation is considered in light of archaeological evidence and oral history of O'odham migration into the Gila River Indian Community. Ramifications for studying earlier population reorganization are considered.

Darwent, Christyann (University of California), Genevieve LeMoine (Peary-MacMillan Arctic Museum, Bowdoin College), Hans Lange (Greenland National Museum and Archives), John Darwent (University of California, Davis) and Trine Johansen (University of California, Davis)

[17] *The Contact Era in the Eastern High Arctic: Dynamic Strategies of the Polar Inughuit*
Within the context of the International Polar Year, the Inglefield Land Archaeology Project addresses culture contact, migration and social interaction, and climate change in the High Arctic, with our examination of strategies adopted by the Inughuit as they contended with Canadian Inuit and Euro-Americans moving into Northwest Greenland at the end of the Little Ice Age. We present the results of our on-going research on ways in which the Inughuit altered resource exploitation strategies, visible in the both the faunal and technological record, in response to culture contact and climate change during the late prehistoric-early historic period.

[166] *Discussant*

Darwent, Christyann [17] see Mason, Owen K.

Darwent, John [17] see Mason, Owen K.; [17] see Darwent, Christyann M.

Daughtrey, Cannon [211] see Sewell, Kristin J.

David, Eva (CNRS - UMR 7055 Préhistoire Et Tech)

[186] *The Evolution of the Projectile Points of the Early Holocene in Northern Europe: Between Technical Tradition and Techno-Economic Necessity*

The study of bone and antler projectile points, representing half of the Early Mesolithic manufactured items, sows differences in manufacture and trends in morphology. Compared with the rest of the industry and taking into account the anatomical parts used, these armatures are significant enough to discuss an "industrial dynamism" in the Early Holocene. Patterns involved in their evolution seem to be related more to a "speciation" of the hunting gear that is probably linked to techno-economic necessities, than to an adaptation to the recorded environmental changes.

Davidson, Iain [270] see Veth, Peter Marius

Davies, Diane [97] see Runggaldier, Astrid M.

Davies, Gareth [319] see Panhuysen, Raphael

Davila Cabrera, Patricio (INAH)

[150] Southeastern Concepts in Mexican Ancient Cultures

Usually archaeologists consider that, by their complexity, the cultures developed in the Mesoamerican demarcation influenced those that bloomed in its periphery. As far as the cultures of the Mississippi valley - in Southeastern North America -- it was all the opposite, we observed a good number of characteristic cultural elements that present a deep tradition, in the north, and were adopted by diverse cultures of ancient Mexico, specially those of the Gulf of Mexico coast and in the Plateau. I will expose some of these characteristics, which are product of diffusion.

[150] Co-Organizer

Davis, Chief Kelvin [18] see *Knight, Melissa Lynn*

Davis, Katharine (Harvard University)

[232] Residential Expansion in the Classic Tiwanaku Period: A view from the Muru Ut Pata area, Tiwanaku, Bolivia

The years AD 800-1000 (Tiwanaku IV-V Period) saw a change in the face of the Middle Horizon site of Tiwanaku, as a massive push towards urban renewal caused new areas around the monuments to be settled for residential occupation. While some theories attribute this renewal to the direction of state leaders or powerful elites, investigations into areas such as Muru Ut Pata, have provided new insights into the material evidence for group agency, diverse economic strategies, and interests in response to political and cultural hegemony.

Davis, Lauren and Todd VanPool (University of Missouri - Columbia)

[126] Examining Degrees of Specialization in Chihuahuan Polychrome Production

I determined the presence of standardization of pottery from the site of Paquimé in the Casas Grandes region using the data published from pottery obtained from Charles Di Peso's excavations. I used the published data on Ramos Polychrome and Ramos Black vessels using several physical measurements to identify whether metrically distinct groups of pots are present. I then compared the Ramos Polychrome bowls with Huarigos and Carretas bowls to determine differences in use between these groups, specifically looking for indications of use for feasting.

Davis, Loren (Oregon State University)

[249] The Role of Geoecological Models in southern Columbia River Plateau canyon archaeology

Columbia River Plateau archaeology has a history of integrating earth science approaches in the study of prehistoric hunter-gatherers. Here, paleoenvironmental context is treated as a benign backdrop, a deterministic force driving functional behavioral responses, a generator of opportunities and constraints, and as the source of selective pressures differentially acting upon cultural variation. Unified under the bridging concept of geoecology, we may learn how the abiotic structure and dynamics of landscapes influence their associated biotic components relevant to human scales of time and space. Two case studies concerning early cultural transition and the appearance of semi-sedentary village patterns are presented.

[249] Co-Organizer

Davis, Loren [142] see *Ames, Kenneth M.*

Davis, Peter (Montclair State University), Ashley Rae Scott (Ohio State University), Christine Taylor, Leah Matthews (New York University) and Stanley L. Walling (Community College of Philadelphia)

[297] Rural Maya Ballcourt Ritual, Landscape, and Hydrology: Recent Investigations at Chawak But'o'ob, Belize

In 2006, researchers reported the discovery of a formal ballcourt in a rural setting at Chawak But'o'ob in northwest Belize. Subsequent investigations at this commoner ballcourt have revealed an associated complex of unassuming structural remains and water management features. Together, these remains and features suggest the ancient Maya here employed a sophisticated awareness of environmental elements in their creation of

sacred space. The authors consider how the interplay of the natural setting and ritual architecture at Chawak But'ob adds dimension to our understanding of the character of rural Maya ceremonialism and the place of hydrology in Mesoamerican ballcourt function.

Davis, Peter [297] see *Hanna, Jonathan A.*

Davis, Sara (Archaeological Investigations Northwest), Kenneth M. Ames (Portland State University) and Kristen Fuld (Portland State University)

[175] *Dart and Arrow Points on the Columbia Plateau*

When the bow and arrow was introduced and replaced the atl-atl are important research questions in North American prehistory. Answering them requires distinguishing archaeological dart and arrow points. To do this, quantitative methods based on ethnographic specimen have been developed. These measures were applied to a large sample of Early to Mid-Holocene points from Hatwai in central Idaho. Windust points are small dart points; Cascade points are very small dart points, considerably overlapping large arrow points in size; and Hatwai-eared points are unambiguously medium to small arrow points. Hatwai-eared points date between ca. 5000 and 3000 BP.

Davis, Terressa (Heritage Watch)

[107] *The Limits of the Law: The Impact of the UNESCO Convention on the Trade in Illicit Cambodian Antiquities*

Having been ratified by 102 states, the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property constitutes the prevailing international law on the trade in illicit antiquities. Has the convention, however, achieved its goal of protecting cultural property from "the dangers of theft, clandestine excavation, and illicit export?" Through a case study of the small Southeast Asian nation of Cambodia — one of the first parties to the convention — this paper analyzes the convention's impact and makes recommendations for its improvement.

Davis-Salazar, Karla (University of South Florida)

[158] *The Cultural Construction of Classic Maya Hydraulic Engineering*

The diversity of hydraulic constructions found at Classic Maya sites attests to the engineering ingenuity of their inhabitants. It also highlights the fact that water facilities are cultural, as well as physical, constructions. This paper reviews the various kinds of hydraulic features documented throughout the Maya lowlands, linking variation in construction to the social, political, and environmental histories of the cities in which they are found.

[289] see *Moreno-Cortes, Jose E.*

Dawson, Pete [17] see *Hodgetts, Lisa*

Dawson, Peter (Archaeology Dept. University of Calgary), Edward Eastaugh (University of Western Ontario), Lisa Hodgetts (University of Western Ontario) and Luke Suluk (Ulibbaq Consulting)

[17] *Old Questions, New Prospects: Recent Archaeological and Oral History Research in the southern Keewatin Region of Nunavut.*

The southern Keewatin region of the Canadian arctic has received little archaeological attention, to date. This is unfortunate, as several unresolved research questions, which are of interest to arctic archaeology, relate directly to this region. The first of these involves the origin of the Caribou Inuit cultural pattern, which ethnographers and archaeologists hypothesize was established by the mid 18th century. The second focuses on the broader question of how long human societies have occupied this area, and why patterns of land use and occupancy have changed over time. In this paper, we discuss recent archaeological and oral history research that promises to shed new light on these important issues. We explore how these new data are currently being used to examine the effects of changing physical and social environments on human societies in the southern Keewatin region over the past several thousand years.

Dawson, Peter [145] see *Lyons, Natasha Lynn*

Day, Grant [311] see Meyer, Regina M.

Day, Jane (Research Atlantica, Inc.) and Robert S. Carr (Archaeological and Historical Conservancy)

[63] *Enhancing the Written Record: Using Archaeology to Expand the Historic Legacy at Preacher's Cave, Eleuthera, Bahamas*

Preacher's Cave has long been identified as the original English settlement in the Bahamas. Discoveries from four archaeological field seasons have provided details on the survival of the shipwrecked Eleutherian Adventurers who lived in the area from 1648 to c.1657. A previously unrecorded cemetery illuminated Puritan burial practices, while the documentation of alterations to the limestone formations of the cave offers insight into the spatial use of the natural environment during the seventh century. Other artifacts provide information on trade and commerce. This compiled data suggests coping strategies for survival, and reasons for the eventual abandonment of the site.

Day, Jane [63] see Schaffer, William C

Dayton, Chris (Boston University)

[263] *Geoarchaeology in Contisuyo*

Perspectives and methods from the earth sciences have been important elements of archaeological research throughout the history of the Contisuyo program. From singular events to long-term site formation processes, from specific locations to entire landscapes, a consideration of geological processes has figured prominently in analyses of human occupation in the Moquegua drainage. In this paper I discuss geoarchaeological contributions to the broader Contisuyo research agenda, covering topics such as geochemistry, macro- and micro-scale morphology, sediment analysis, tectonics, and other avenues of geological inquiry that have been applied to archaeological questions.

De Anda Alaniz, Guillermo (Universidad Autonoma De Yucatan)

[280] *Is the Road to Xibalba in the Center of Yucatan?*

During the middle of the 16th Century, prosecution of idolatry was instituted in central Yucatan. Written evidence of trials and witnesses statements were recorded by the Spanish friars and sent to Spain. Most of the witness interrogated referred the use of cenotes as the place of deposition of sacrifice victims. Fieldwork by "The Cenote Cult in the Center of Yucatan" Archaeological Project has searched for archaeological evidence of cult activities in caves and cenotes of this area. We present the first results of our research in this work.

De Barros, Philip (Palomar College)

[182] *Tribute to Merrick Posnansky: Archaeology and the Human Spirit*

Professors attract students for many reasons – for their genius, expertise, publications or because they're mavericks. Then, there is Merrick Posnansky, who combines expertise and insight with a dose of generosity, encouragement, and good humor. Merrick makes you care about Africa and makes you see your work as an important contribution to the continent and its peoples. He opens your eyes and prods you to take new directions with gentle persuasion rather than abrasive criticism. Finally, he inspires you with his holistic approach to the African past - a seamless integration of ethnography, ethnohistory, ethnoarchaeology, and archaeology.

de Brer, Christian

[157] *Delicate Tasks - Housing mummy bundles and other excavated artifacts from the Tarapaca Valley, Chile*

The preservation of mummies and associated materials is excellent in the cemeteries of the Tarapaca Valley due to the extremely dry climate. For this reason, the excavated materials provide a unique opportunity for archaeological study. Proper housing, documentation and minimal treatment are essential for preserving all artifacts at their excavated condition.

De Carlo, Matthew [278] see Yohe, Robert M.

De la Cruz, Isabel [256] see Gonzalez-Oliver, Angelica

De Lucia, Kristin

[229] *From House Mounds to Regional Capital: Household Consumption and the Political Practices of Everyday Life in Xaltocan, Mexico*

In this paper, I look at the household level to consider how household strategies affected broader power structures by exploring the politics of everyday life, including household consumption, feasting, and ritual. Recent excavations have suggested that Early Postclassic Xaltocan, Mexico, was densely occupied, but lacked a political center with political elites. However, Xaltocan soon rose to become a major regional center, controlling regional exchange systems and collecting tribute from nearby villages. I explore variation and change in the politics of everyday life to consider the role of ordinary households in this rapid growth of Xaltocan's political economy.

De Schiffart, Nicole and Aubrey Cannon (McMaster University)

[130] *Death and Commemoration of Children in Rural Victorian England and Ontario*

Comparisons of burial records and grave monument inscriptions show less representation of children on monuments in Cambridgeshire, England than in southern Ontario, Canada. The age and sex profile of commemorations also show more common inclusion of older children and a tendency to include female children at slightly younger ages than males. We examine these patterns in relation to social class, childhood mortality, and the ages at which children assumed adult economic roles. The results provide a basis for assessing conceptions of personhood and the influence of mortality rates on responses to death and grief.

DeBlasis, Paulo (Museu de Arqueologia-USP) and Madu Gaspar (Museu nacional-UFRJ)

[177] *Sambaquis for the Ancestors again: meaning and identity in ritual moundbuilding at the southern Brazilian coast*

The Brazilian sambaquis (shellmounds) represent an enduring cultural tradition very well adapted to coastal marine environments. This long duration has been associated to stable and demographically expressive settlements, as can be seen at the southern Santa Catarina study area, continuously occupied between 6 to 1,5 kyBP approximately. Incremental moundbuilding into these coastal areas is related to recurrently performed funerary rites, integrating local group and collective memories towards mythological ancestors. This singular social identity construction process is regularly reified by the very act of taking part on the edification of such imposing monuments in the open landscape.

[236] *Discussant*

DeBlasis, Paulo [177] see Farias, Deisi Scunderlick

Debryune, Regis [256] see Poinar, Hendrik

DeCarlo, Matthew (Center for Archaeological Research) and Robert Yohe II (Center for Archaeological Research)

[278] *Mammoth Bones, Fluted Points, and Wasden: What Does It All Mean?*

During the latter investigations at Owl Cave in the late 1970s, fluted points were found in association with proboscidean remains identified as *Mammuthus columbi* in the lower levels of the site. According to Miller (1982, 1983), the condition of the mammoth bone and the presence of Paleo-Indian points in the same stratum strongly suggested that the modification to the bone was the result of human activity. This paper will evaluate the evidence with respect to the positioning of the fluted points in the "mammoth layer" and further examine the claim that the proboscidean bone was intentionally modified to produce bone tools.

Decker, Jeremy [46] see Steffen, Anastasia

deFrance, Susan (University of Florida)

[231] Quebrada Tacahuay, the Other Early Andean Coastal Site

In addition to the site of Quebrada Jaguay, investigations at Quebrada Tacahuay also produced evidence for Late Pleistocene coastal occupation on the far southern coast of Peru. Tacahuay differs from Jaguay in site occupation, evidence for trade, degree of subsistence specialization, and the factors that resulted in its burial and preservation. In this paper I discuss the early coastal variability in occupation that is documented at these two sites. I also consider why other similar age sites along the south coast of Peru may be so difficult to identify.

[263] Discussant

Delaney-Rivera, Colleen (Cal State Channel Islands)

[202] Lemon Groves, Windmills, and Shell: Preliminary Excavations at a Coastal California Chumash Site

This report details the preliminary excavations and interpretations of material recovered from a prehistoric shell midden site located adjacent to the Oxnard Plain. The timing of the occupation is intriguing given the temporal overlap with several additional nearby archaeological sites, as is the location with its close proximity to the coast and interior mountains. The artifact types encountered and dating of radiocarbon samples suggest the site represents a habitation site in use during the Middle Period (600 BC- 1000 AD). Questions to be briefly addressed include site stratigraphy, location of past natural resources, and past human activities.

DeLeonardis, Lisa (Johns Hopkins University)

[98] An Unsettling Transition: The Paracas - Nasca Landscape of Callango, Lower Ica Valley, Peru

Although cultural continuity between Paracas and Nasca is widely recognized, the social mechanisms of the transition are poorly understood. In the Ica Valley, changes in settlement patterns during the transition are abrupt. Equally acute are technological and stylistic changes in ceramics and the composition of artifact assemblages. Here, I analyze settlement data from Callango to illustrate the shifts that occur, the changing patterns of site types, and the processes of site abandonment and reoccupation. These analyses establish a regional basis for interpreting pre- and post-transition developments.

Delgado, Arnulfo [280] see Perez, Arturo E.

Delgado Espinoza, Florencio (Universidad San Francisco De Quito)

[200] The Economic Organization of the Communities around Agua Blanca, Coastal Ecuador

Agua Blanca is an important Manteño site built during the late Integration period in the coast of Ecuador. Research carried out at the site has concentrated on the main ceremonial-administrative sector. New data from outside the main center has been gathered. Here we present this data in order to understand how the local economy was organized within the Buenavista Valley.

[200] Co-Organizer

Dell, Rachel, Joelle Chartrand (Trent University) and Nadine Gray (Simon Fraser University)

[234] The Ceramics of Minanha: Results from 10 years of Research

Over the past ten years of research, ceramic analysis has been integral to understanding Minanha's chronology, socio-political economy, and the timing and nature of the rise and fall of its royal court. Ceramic studies have also contributed to broader notions of ancient Maya craft production and distribution, along with information regarding inter and intra regional interaction. This paper presents a synthesis of the research methods including type:variety, micro-seriation, modal and petrographic analyses. These tools have yielded insights into Minanha as a political entity during the Late Classic period and it's role in the broader political landscape of the ancient Maya.

DeLong, Robert (NOAA) [36] Discussant

Delorenzi, Claudio [107] see Bezerra De Almeida, Marcia

Delvaux, Thomas

[63] *A Review of the North Storr's Lake Site(SS-4).*

A review of the archaeological work conducted at the North Storr's Lake site, San Salvador Island, Bahamas, between 1996-2008. The Storr's Lake site is threatened by commercial development and continues to provide valuable information about the site's prehistoric inhabitants.

Demarest, Arthur (Vanderbilt University), Erin Sears (University of Kentucky),

Marc Wolf (Cancuen Archaeological Project), Melanie Forne (Cancuen Archaeological Project) and Ronald Bishop (Smithsonian Institution)

[257] *High Elites, Economy, Production, and Exchange Along the Late Classic Maya Western Trade Route*

Recent evidence from ceramics, figurines, epigraphy, workshops, and intrasite artifact distributions at Cancuen indicate the diverse interregional nature of its internal population and their engagement in production and long-distance exchange. Historical inscriptions and INAA compositional analyses provide additional evidence on Cancuen political economy. As has been demonstrated at several sites including Cancuen, elites were participants in the final aspects of craft production. New evidence also suggests high elite supervision of material import and initial production which might explain patterning of evidence at Cancuen and along the Gulf-to-southern-highland western trade system.

[257] *Co-Organizer [257] Chair*

Demarest, Arthur [282] see Cifuentes, Andres; [187] see Barrios, Edy

Dematte, Paola (Rhode Island School of Design)

[71] *the written landscape: rock art of northwestern China*

Chinese rock art sites skirt the agricultural center of the Yellow and Yangzi River Valleys and are concentrated in territories originally inhabited by nomadic or semi-nomadic pastoralists in the north, or fringe agriculturist and horticulturists in the south. Among the Chinese rock art concentrations, those found along the northern and western frontier (Xinjiang, Gansu, Ningxia, Inner Mongolia) play a key role in helping understanding little known aspects of the culture of Inner Asian populations living in the fluctuating Chinese northern frontier area, and at the same time shed some light on their interactions with the Chinese world.

Demirergi, G. Arzu (Stony Brook University), Dragana Filipovic (Oxford University) and Mike Charles (Sheffield University)

[276] *Two Sides of the Same Coin: archaeological and ethnographic perspectives on storing and sharing food at Çatalhöyük. Part II: Sharing*

A less common approach to thinking about the environmental and social challenges inherent to agricultural production examines food sharing, which provides both nutritional reserves and equally importantly, social bonding. Like extrasomatic food storage, food sharing links daily life to wider social issues such as household structures, community relations, and the general scale(s) of human interaction. We integrate multiple data sets in order to examine food sharing behavior at early agricultural Çatalhöyük. Issues of particular interest include the sharing of animal vs. plant products and of domesticated vs. wild foods, as well as the scales of food sharing.

Denbow, James (University of Texas)

[40] *Everybody here is all mixed up!*

This paper presents a micro-scale examination of archaeological field praxis and its impact on archaeologists, students (foreign and indigenous), and the local communities that both host and labor for them. It is a reflexive journey that tries to bring coherence to the multiple registers of meaning, contradiction and transformation that have taken place during excavations at Bosutswe in "post-colonial" Botswana. The paper discusses our interactions with one another and our encounters with "the past" as we sought to validate, transform, or escape from the contemporary entanglements of multi-lateral "pre-judgments" that have

their roots deep in the soil of colonial encounter.

Dennett, Carrie (University of Calgary), Christina Luke (Boston University) and Paul F. Healy (Trent University)

[59] *Which Came First? The Marble or the Clay?: Ulua-style Vase Production and Precolumbian Cultural Boundaries*

Most Central American archaeologists are familiar with marble vases from the Ulúa Valley, Honduras, located in the southeast Mesoamerican periphery. Just east lies northeast Honduras, part of the northern Chibchan frontier. Here, Precolumbian potters produced ceramic analogues to the better known Ulúa marble vases. For decades there has been speculation as to which came first, the marble or the clay. This paper presents, for the first time, a potential solution to this longstanding mystery. Interregional interaction is also explored to address broader theoretical considerations, specifically frontier theories, and serves as the basis for re-evaluating traditional cultural boundary definitions.

[59] *Chair*

Dennis, Julie (University of Houston, Department of Anthropology)

[47] *Cardinal Directionality in Maya Burials*

This research investigated the use of the cardinal directions as determinants in the placement of the body in Maya burial practices. Data was analyzed from the Maya sites of K'axob, Belize; Cuello, Belize; and Copán, Honduras, including Gordon Phase, Rural Copán, and Group 9N-8. Initial hypotheses proposed that the use of cardinal directionality in placement of the body would be established through this study, and that primary emphases would be on the directions of North and West. Results of this study revealed primary emphases on South, North and West, with the Southern direction unexpected.

Densmore, Julie [57] see Wolverton, Steve

DePaoli, Maurice (In-SHUCK-ch Nation)

[18] *Doing More With Less: Archaeology, Culture and Land Use in the Lower Lillooet River Valley, British Columbia*

The traditional territory of In-SHUCK-ch Nation is two hours away from the Fraser Valley, yet it is a relatively unknown area of British Columbia, and archaeologists have paid little attention to it. In the midst of treaty negotiations with the federal and provincial governments, In-SHUCK-ch Nation has taken steps to protect their cultural heritage in all its forms, and to have a direct say in how their heritage is managed. This paper documents the efforts of the author to make archaeology an important and relevant part of the discussion on land use, economic development, and cultural revitalization.

Dering, Phil [179] see Terry, Martin

Des Lauriers, Matthew

[80] *The Old Ways: Cultural Persistence and Divergence in Baja California*

The Baja California Peninsula is one of the most remote and ecologically distinct portions of North America. Perhaps because of this, local indigenous traditions were rich and varied, simultaneously exemplifying both local innovation and archaism. When geographic or social conditions conspire to isolate populations, or force them to sever ties and networks that connected them to others, the potential for divergent historical development emerges. Baja California thus presents an opportunity to evaluate models which attribute cultural shifts in the Far West at the end of the "Archaic" to climate change, population movements, or changing interaction networks.

Descantes, Christophe (University of California-Berkeley)

[169] *The history of Taraang's cultural landscape: O'Keefe's Island, Yap, Micronesia*

The cultural landscape of Taraang (O'Keefe's island), an outlying island of Yap in Micronesia, bears witness to a succession of historical events and sociopolitical upheavals in Yapese society. This poster uses archaeological and documentary evidence to understand how people shaped their landscapes, and the ways, in turn, that the people were motivated and constrained by their built environment. The most transformative period

in Yapese culture history was when a trading station was set up by David Dean O'Keefe, a successful Irish-American trader in the late nineteenth century.

Deslatte, Kaitlin (University of Massachusetts, Boston) and Krysta Ryzewski (Brown University)

[68] *Collectibles, Curiosities, and the Colonial Experience*

We examine and discuss the material world of the Greenes, viewing a particular assemblage from the Old House at Greene Farm as akin to a cabinet of curiosities that involved types of objects that we now regard as quite separate, but whose boundaries during the 17th century were yet to be defined by rigid categorizations. As material likely collected by the Greenes and their peers during explorations and trading voyages, the material is a curious mix of old and new, familiar and foreign; identities that mirror many of the same realities of the first generation European colonists in Rhode Island.

Desmarais, Danielle

[250] *Bone Fuel: An Investigation of Seal and Deer Bone Combustion and the Patterns that Result*

Research on burnt bone and the use of bone as fuel by past cultures has expanded to identify the efficiency of bone fuel, the patterns burnt bone leave in the archaeological record and how these patterns can be identified and interpreted. This paper presents the results of experiments conducted into the properties of seal and deer bone as a fuel source and compares the two to explore variable efficiency and to identify the specific patterns that result with regard to fragmentation, calcination and carbonization. Included is a discussion of how the use of bone fuel affects archaeological interpretations.

Desrosiers, Pierre [17] see Gendron, Daniel

Detry, Cleia and João Luís Cardoso (Universidade Aberta)

[139] *Archaeozoology of the last hunter-gatherers in the lower Tagus Basin (Muge, Portugal)*

The Muge shell middens are among the most important Mesolithic sites in Western Europe. Together they represent long periods of continuous occupation by hunter-gatherers and have produced rich artefact, faunal assemblages and high numbers of human burials. The archaeozoological analysis of Cabeço da Arruda, Moita do Sebastião e Cabeço da Amoreira expands our understanding about these Mesolithic hunter-gatherers and their environments. The results indicate that they hunted a wide range of species with particular emphasis on deer, wild boar and rabbit. The data suggest that year-round occupations of the middens were possible due to the diversified and stable ecosystem.

Dettman, David (University of Arizona)

[273] *Seasonality of prehistoric fishing and mollusk collecting in the Puerto Peñasco area*

Stable isotope patterns in seasonal records from shells and otoliths from the northern Gulf of California are repeatable and predictable. On the east side of the Gulf of California the annual cycle in oxygen isotope ratios is primarily controlled by temperature. This temperature cycle can be used to identify the season of final growth in shells and otoliths from midden material in the Puerto Peñasco area. Initial results indicate that mollusk collecting and fishing activity were focused on the late fall and winter season. Collection stopped well before the rapid increase in temperature of the early summer.

Dever, Alejandro

[292] *Social And Economic Evolution Of A Specialized Community In Chengue, Parque Tairona, Colombia*

How did specialized a Tairona coastal community form and how social inequality played a role in socio-economic change from 200BC to 1650AD? This question is answered using two opposing scenarios. In the top-down scenario the community would be the result of an external agent that had sufficient authority to "create" a community with the intention to extract a highly concentrated resource, marine salt. In the alternative scenario, the bottom-up process, the community would become specialized as a result of a slower process product of decisions of the individuals who resided in Chengue.

Devriendt, Izabel (University of Groningen)

[159] *Bipolar pieces, a question of function, raw material availability or skill. A case-study of the Neolithic sites at Swifterbant (The Netherlands)*

After 30 years of inactivity, excavations were taken up again at the Neolithic sites of Swifterbant. Recently, a large group of bipolar pieces have been identified on the sites. Although they are all produced out of small flint pebbles, morphologically they can be divided into three groups. These groups might represent different functions or might be the result of different levels of skill. The Swifterbant area is located in a region providing only flint pebbles. Is this lack of good quality raw material the main reason for adopting the technique or are tradition and social organisation triggers as well?

DeWitte, Sharon (University at Albany)

[48] *Distribution of Skeletal Lesions Within the East Smithfield Black Death Cemetery*

The East Smithfield Black Death cemetery (c. 1349-50) contains individual and mass graves. Previous researchers have suggested that the two grave types do not reflect social status, but rather the mass graves were used when mortality was at its peak, and the individual graves were used when mortality slowed. This project attempts to identify systematic differences between individuals in mass versus individual graves with respect to skeletal lesions and stature. By using such traits as a proxy for social status, this project tests the idea that social status did not determine burial location in East Smithfield.

Diaz, Tracie (Statistical Research, Inc.)

[99] *age and development of juvenile skeletal remains*

The current standards for age estimates of juveniles rely greatly on long bone lengths and dental development. My research is ongoing and presently includes juveniles age fetal to approximately 12 years. In my analysis I have observed a correlation between tympanic ring, sacrum, and dental development. Age estimates from each of these observations is then compared to dental development, in addition to overall development of cranial and post cranial elements. I have found that age estimates from observations of the tympanic ring and age estimates from observations of the sacrum strongly corresponds with age estimates based on dental development.

Diaz-del-Rio, Pedro (Instituto de Historia, CSIC)

[153] *Decoding the transcripts of the pristine state hypothesis*

The existence of a pristine State during the III millennium BC in southern Iberia has been one of the most pervasive hypotheses of the last decades in Spanish archaeological literature. As usual, increasing allegiances have been mainly the result of academic loyalties. I suggest that the numerous publications that support the hypothesis have allowed the emergence of a growing amount of information highlighting the problematic relation between the theoretical formulation, what the proponents consider evidence, and the archaeological record. However, they include encoded evidence that may allow a more valuable interpretation based on consilience and simplicity.

Dibble, Harold (University of Pennsylvania)

[154] *The Legacy of Arthur Jelinek in Method, Theory, and Scientific Approach: A View from the Middle Paleolithic*

It is well known that to understand the history of a discipline, it is essential to know how and from whom individual researchers received their training. Drawing from his own intellectual training and personal experiences, the author presents several examples of his work that draw directly from Jelinek's influence, including areas such as excavation techniques and computerization, lithic analysis and approaches to Middle Paleolithic assemblage variation, and geology.

[154] *Co-Organizer; [94] see Schwartz, Steve; [205] see Schurmans, Utsav A.*

Dibble, Loretta (Rutgers University) and John W.K. Harris (Rutgers University)

[6] *Prey Fish Habitat and Locations of Holocene Fishing Camps in Lake Turkana, Northern Kenya*

Using analog data derived from the spatial distribution of modern fish camp locations and

demographics, modern shoreline habitat, prey fish habitat specificity and near shoreline geomorphology a model of potential distribution of Holocene fishing activities was created. This potential land use model is compared to the Mid-Holocene archaeological record from Lake Turkana and tested using archaeological survey data.

Dibble, Loretta [149] see Harris, J W K

Dickau, Ruth (University of Calgary)

[110] *Big menu at "Little Stone House": New starch and macrobotanical evidence of preceramic diet from Casita de Piedra, Panama.*

Previous research revealed that the inhabitants of several preceramic sites in western Panama were using domesticates like maize, manioc, and arrowroot by 7000-5000 cal BP. They also exploited a range of local resources, including tree fruits, leguminous seeds, and tubers. New excavations were undertaken at one of the sites, Casita de Piedra, in order to obtain new samples for archaeobotanical analysis and dating. Results confirm the presence of maize and manioc by 7000 cal BP in western Panama. They also provide evidence for the preceramic consumption of achira (*Canna* sp.) and several other previously unrecorded plant resources.

Dickinson, Bill (Exceptional Software Strategies)

[81] *Next Generation Web Mapping: Web-based Mapping for the 21st Century Archaeologist*

This research presentation will present a brief look at the evolution of web-based mapping technologies from the beginning to the “next generation” of 2D and 3D web map applications. For this project, “next generation” web mapping technologies include the use of Adobe Flex for a 2D web interface and ESS’s SpaceTime Java3D Client for 3D web interface. These technologies have been used to create both a 2D and 3D web interface for the North Orkney Historic Population Project, a spatiotemporal demographic archaeological research project headed by Dr. James Wood (Professor of Anthropology and Demography, Penn State University).

Diederichs, Shanna (Aztec Ruins NM) and Aron Adams (Aztec Ruins National Monument)

[2] *Correcting Differential Fill Levels in the Western Great House at Aztec Ruins National Monument: Backfilling, Excavation, and Archeological Results*

Historic excavations at Aztec Ruins resulted in a dangerous disparity between fill levels throughout the Western Great House. Unexcavated blocks cause intense static loads on the walls of interior open rooms. The National Park Service has backfilled over 100 rooms to alleviate this problem; however, visitor trails and pristine roofed rooms preclude certain areas from backfilling. The Fill Level Adjustment Project aims to excavate loads adjacent to these delicate areas to balance fill levels. Testing has characterized the deposits in affected areas and a major reduction in fill levels will be implemented with minimal impact to archeological remains.

Diedrich, Melanie (Graduate Student, Union Institute and University, VT)

[188] *The Microflora and Microfauna of the Sunken Village Site*

The 100% Soil Samples taken from within five of the 60+ acorn pits, a special soil sample from Half Test Unit 4, and 30 foot 4" cores taken from the beach level at the Sunken Village Archaeological site contain very tiny seeds, shell and fish bone fragments, and invertebrate remains. Using a combination of very fine wet-screening and flotation the organic material was separated from the sand and silt. These remains provide additional data regarding the ancient ecology and resources available at this site on Sauvie Island.

Diehl, Michael [273] see Adams, Karen R.

Dietler, John (UCLA Dept of Anthropology)

[148] *The Rise of Chiefly Craft Economies in Southwest Florida*

Ancient craft economies were often complex, involving multiple goods, numerous production locales, and far-reaching exchange networks. Tracking the creation and

consumption of important crafts on a regional scale allows the identification of centers of production and exchange, potentially leading to significant insights into sociopolitical organization. Shell woodworking tools, used in the manufacture of numerous utilitarian and prestige goods, were central to South Florida economies. Using radiocarbon dates and mass-spectrometry sourcing data for dozens of tools, I argue that a spike in shell axe production provides key evidence for the rise of a chiefly economy in the Caloosahatchee region.

Dietler, Sara (EDAW)

[82] *Digging Deep: Archival Research into the History of Los Angeles' City Cemetery*
Without headstones or markers associated with the burials recovered during the City Cemetery excavations, identification of individuals solely through the archaeological investigation was nearly impossible. Historic research was conducted at city archives, libraries, museums and even other cemeteries. Beginning with the discovery of the original burial journal, historic cemetery maps, and burial plot records, the archival research has contributed to a better understanding of the archaeological evidence and also provides a contextual framework in which to place City Cemetery. The remarkable clues discovered have enabled the stories of Los Angeles' long forgotten pioneers to be told.

Diez Barroso Repizo, Alberto (Museo Del Templo Mayor)

[251] *The Palace Of Axayacatl And The Casas Viejas Of Cortés In Mexico Tenochtitlan: A Methodology Approach In Urban Archaeology*

The archaeological work in the historical downtown of Mexico city is an approach to know the historical process of the city from the prehispanic edge to contemporary time; in this matter the Urban Archaeology Program of Templo Mayor Museum conducted archaeological rescue in the street of Palma, and saved the remains of an ancient palace of Axayacatl. In the same place Hernán Cortés built his first palace in Tenochtitlan after the conquest. The results of the investigation will complement the archaeological data with the historical, in particular for the study of the outside of the Aztecs ceremonial centre.

Dillehay, Tom

[143] *Climates, Environments, and the Onset of Socio-cultural Diversity across South America*

Climates, Environments, and the Onset of Socio-Cultural Diversity across South America
Although many local and regional socio-economic transformations in South America during the late Pleistocene period are understood in terms of climate change, others are not. A paradox is that just when climatic conditions were not favorable in some areas, people developed certain initial pulses toward complexity. A reversed paradox occurred in other areas. Congruities and incongruities between the archeological and paleoenvironmental records, as well as the quality of those records, are assessed.

[55] *Discussant*

Dillian, Carolyn (Princeton University), David Braun (University of Cape Town) and Emmanuel Ndiema (Rutgers University)

[241] *Geochemical Characterization of Obsidian in Northern Kenya*

Obsidian sourcing in northern Kenya faces many challenges, including geographic hurdles that make finding and sampling obsidian flows exceptionally difficult. Very little is currently known about obsidian procurement and use in this area. Our preliminary research suggests that multiple obsidian sources may have been accessible to early pastoralists living in the Koobi Fora region, and that these peoples could have been conducting trade and exchange of lithic materials. This paper outlines initial geochemical characterization results for archaeological obsidian specimens obtained during investigation of three early pastoralist sites in the area of Koobi Fora, northern Kenya.

Dillian, Carolyn [24] see Bello, Charles Andrew

Dionne, Marie-Michelle (Université Laval)

[189] *[In Search of the True Palaeoeskimo's Skin Processing Lithic Toolkit : Experiments and Use-Wear Analysis*

We know that skin processing (for clothing, tent or equipment making) is an essential activity to survive in the arctic context, but we don't know the real implication in the territorial exploitation system. Indeed, toolkits and the way they were used were mainly understood from their morphological and ethnographic inference. I think that analysis of real « way of use », based on ethnographic, experimental and archaeological data interaction will allow us to reconstruct the skin processing chaîne opératoire from many Dorset sites of Hudson Strait associated with different seasons. The aim of this paper is to expose the first stages of experiment program. These steps are based on chert and crystal quartz tools use-wear patterns after used on caribou skin. Moreover, I present a preliminary use-wear analysis on artifacts from two Dorset sites to define the true skin processing lithic toolkit and the skin processing phases that occurred on these sites.

Dixon, Chris [41] see *Guerra, Monica F.*

Dixon, Christine (University of Colorado Boulder)

[41] *Manioc: A New Discovery in the Classic Period Agriculture of Cerén, El Salvador*
An unprecedented discovery was encountered while investigating agricultural production at Cerén. Two 2007 test pits revealed planting beds containing manioc plants and provide a unique window into ancient Maya agriculture. Much archaeological research has focused on the agricultural crops and methods utilized in sustaining dense Classic Period populations. Tuber crops have been identified as one possible element of this subsistence however direct evidence has been lacking. The discovery of manioc at Cerén has revitalized the examination of tuber crops in Maya subsistence and this paper discusses the evidence and implications of these findings.

Dixon, E (Maxwell Museum of Anthropology) [275] *Discussant*

Dixon, E. James [145] see *Fifield, Terence E.*

Dixon, Sarah

[140] *Micro sampling of various Chaco sediments for artifact recovery*
Various sediment samples were collected from the environs of the Chacoan Great House, Pueblo Bonito. Such samples include collections from ant hills, backdirt piles, and trench fills. The samples were filtered through 1 mm and 500 µm screens in order to retrieve micro artifacts for further analysis, which are typically lost in conventional screening methods.

Dobney, Keith [223] see *Larson, Greger*

Docster, Elise (Northwestern University), Andrew Wyatt (University of Illinois Chicago), Cynthia Robin (Northwestern University), Ethan Kalosky (Northwestern University) and Santiago Juarez (Northwestern University)

[302] *A Changing Cultural Landscape: Settlement Survey and GIS at Chan*
This presentation will explore the implications of changes in Chan's settlement patterns across its 2000 year history and assess human-land relationships as farmers constructed an agrarian landscape at Chan. Across Chan's 3.2 square kilometer settlement area 276 households, over 1000 agricultural terraces, and a small ceremonial center were identified. The settlement survey identified cultural and natural features using laser theodolite technology which allowed for the development of a GIS model of the site. Settlement survey research and GIS modeling work together to build a model of Chan's changing cultural landscape.

Dodd, Walter (CSU-Fresno)

[313] *Influence of Maize Preparation Technique on Groundstone Tool Size*

Prior research has shown that degree of agricultural dependence is positively correlated with groundstone tool dimensions, especially in the processing of grains like maize. This paper will present evidence for yet another variable that may be linked to groundstone tool enlargement-- how maize is differentially prepared for consumption. Time-motion data collected from an ethnoarchaeological setting in northwest Mexico are used to contrast the labor requirements of making tortillas (corn dough) versus making pinole (corn meal).

These data have significant implications for interpreting groundstone variability in the archaeological record.

Dodge, Robyn, Brandon Lewis (Santa Monica College) and Oliver Wigmore

[297] *Excavations of a Mid-Level Elite, Residential Compound at the Site of La Milpa, Belize*

Excavations at the site of La Milpa are directed toward elucidating the role of this polity within the overarching context of Maya regional integration. Consequently, research is dedicated to examining the various social, economic, and ideological elements of this primary center. Excavations during the 2007 field season examined a mid-level, residential courtyard group located within the site's epicenter. While findings are preliminary, evidence relating to domestic architectural, associated temple construction, hill-slope modification, and ceremonial offerings provides an initial insight into the role of residential compounds and mid-level elite at La Milpa.

Doering, Travis (USF)

[227] *View from Olman: El Marquesillo, Veracruz*

Formative period El Marquesillo, in Southern Veracruz, exhibits cultural characteristics that have been noted in later distant regions. This paper will review the apparent early use of the built and natural landscape in the formation of the occupants worldview.

[112] *see Collins, Lori*

Doerner, James (Department of Geography)

[184] *The Reconstruction of Late Pleistocene/Early Holocene Paleoclimates in the North Central Colorado Rockies as a Climatological/Ecological Framework for Paleoindian Studies*

The late Pleistocene/early Holocene encompasses the period when humans first arrived in North America, when large-scale extinctions of Pleistocene mammals occurred, and when vegetation belts shifted in response to changing climatic conditions. Reconstructing and interpreting paleoenvironmental changes is essential for understanding patterns of human activity during this time. Biogeochemical and palynological data obtained from multiple sediment cores provides a high-resolution proxy record of environmental change for the North Central Colorado Rockies. This paper describes a climatological/ecological framework for interpreting Paleoindian studies from the region. Special attention is paid to the assumptions and limitations inherent in paleoenvironmental studies.

Doherty, Chris [276] see Carter, Tristan

Dolan, James

[172] *Only Sediment Deep: Analysis of a Northwest Coast household floor*

The centrality of household-level analyses on the prehistoric Northwest Coast has driven recent interest in the artefactual and faunal datasets recovered from these locations. However, absent from many of these interpretations is the formal analysis of the sedimentological context within which other datasets reside. Taking advantage of materials recovered from House 2 at the Dionisio Point site (DgRv-003), this study focuses on the geoarchaeology of the formation and morphological aspects of "house" deposits to develop an understanding of the interface between the behavioural and sedimentological processes that generated them, particularly given the paucity of such settings in the region.

Domanska, Catherine (Vanderbilt University) and John Janusek (Vanderbilt University)

[88] *Bioarchaeology and an Early Death Cult in the Bolivian Andes*

Research at Khonkho Wankane, an important Formative center in the Bolivian Andes, indicates that special treatment of the dead was an important element of incipient complexity in this region. Excavations demonstrate suggestive evidence for specialized production of human bone "relics." In particular, one building contained nearly a thousand human bones, including the hands, feet, and vertebrae of approximately twenty three individuals. These data complement other evidence at the site for an early death cult. This poster confirms that bioarchaeology advances our understanding of past attitudes toward

the dead and their roles in the rise of early centers and emergent complexity.

Domic, Alejandra [244] see *Capriles, Jose M.*

Dominguez, María (Centro de Investigaciones Históricas y Sociales/Universidad Autónoma de Campeche) and Manuel Eduardo Espinosa (Instituto Nacional de Investigaciones Nucleares)

[112] *Preliminary Analysis of Maya Prehispanic Pigments. A Chemical Characterization Study*

The characterization of archaeological materials by physical and chemical techniques has proven to be a great tool to determine the source and properties of ceramics, stone tools, stucco or pigments. In this paper we typify pigments from various archaeological materials and from different sites of the Maya area in order to identify their origin and through this, to propose models of distribution and consumption throughout the different chronological periods. To date, the majority of pigments samples come from steleas and altars at the archaeological site of Oxpemul north group, located in southern Campeche, Mexico.

Dominguez Pelaez, Silvia and Alejandro Pastrana (INAH)

[248] *Cambios en la Estrategia de la Explotación de la Obsidiana de Pachuca: Teotihuacan, Tula y La Triple Alianza*

El estudio de la explotación y talla de la obsidiana verde en el yacimiento de La Sierra de Las Navajas (Pachuca), por Teotihuacan, Tula y La Triple Alianza, presenta cambios tecnológicos y estrategias diferentes de los sistemas de distribución; que forman parte del desarrollo del estado en Mesoamérica Central.

Domning, Daryl [36] see *Corbett, Debra*

Donahue, Randolph [303] see *Langer, Jessica L.; [35]* see *Lee-Thorp, Julia A.*

Dong, Yu (University of Illinois At Urbana-Champaign), Ekatarina Pechenkina (Department of Anthropology, Queens College, City University of New York), Li Liu (Archaeology Program, La Trobe University, Victoria, Australia), Stanley Ambrose (Department of Anthropology, University of Illinois at Urbana-Champaign) and Xingcan Chen (Institute of Archaeology, Chinese Academy of Social Sciences, Beijing)

[170] *Isotopic Evidence for Changes in Neolithic Chinese Domestic Pig Herd Management* Neolithic agriculture in the Yellow River Valley of China was based mainly on millets, which are C4 plants with high carbon isotope ratios. Previous isotopic analyses of bone collagen show that Neolithic humans and pigs consumed substantial amounts of millets. At the site of Huizui, the earliest two Neolithic horizons (Yangshao and Longshan phases) include pigs that had C4-based diets and high nitrogen isotope ratios, and others with C3-based diets and low nitrogen isotope ratios. The latter may be wild animals. Pigs from the Erlitou phase had C4-based diets, suggesting the decline of pig hunting in the latest Neolithic.

Dongoske, Kurt (URS Corporation) [282] *Discussant*

Donley, Colleen

[157] *The Inka in Chile: A View from the Tarapacá Valley*

The nature of the Inka presence in northern Chile has long been under debate. Although the region is strategically significant and offers important resources such as copper and silver, northern Chile has been considered fairly peripheral within the Inka empire. In this discussion, I present evidence from the Tarapacá Valley concerning changes in settlement patterns, material culture, and production technology that support the idea of a stronger Inka influence on the region than has been previously postulated. In particular, I focus on my excavations at Tarapacá Viejo, a site that likely served as an Inka administrative outpost.

Donner, Natalia

[227] *Mother culture, sister culture: familiar dead ends*

In Mesoamerican Archaeology, it is highly usual to find the Olmec development addressed as Mother Culture or Civilization. Some authors, such as Clark, Flannery, Hammond, for instance; have criticised this approach, and also proposed different categorisations. However, none of them seem to analyse the reasons that lay beneath the surface. Not only the archaeological evidence and its interpretations, but also the epistemological, ideological, historical and political issues that cause the use of such terms in Archaeology. In this paper, we try to start this analysis, with the general and always present premise that a true in-depth exam is not aimed to replace old terms with new ones, but clearly understand their meaning and significance.

Dore, Christopher [107] see López Varela, Sandra L.

Dornan, Jennifer (St. Edward's University) and Richard Leventhal (University of Pennsylvania)

[195] *Modern Colonialism: Interpreting the Past for the Present*

It is not a debate about the ownership of ancient artifacts. It is not a debate about how to use looted objects to interpret the past. It is a debate about who controls the interpretation of the past for the present. It is a debate about 21st century colonialism. Although the discussion still revolves around objects, we ask which objects represent past cultures, which are 'aesthetically' important, which are collected, and therefore how do we interpret the past. Host countries and indigenous groups are beginning to claim their position within this interpretive debate.

Dorshow, Wetherbee (University of New Mexico)

[140] *Modeling Paleohydrology in Archaeological Contexts with Terrestrial LIDAR and GIS: A Chaco Canyon Case Study*

Advances in geospatial technologies make it possible to transform qualitative environmental descriptions into GIS-based simulations that integrate models of prehistoric terrain, hydrology, vegetation and geomorphology with archaeological contexts. This paper outlines a research effort focused on the simulation and analysis of the flow and accumulation of water across projected archaeological landscapes, using 10th to 13th century Chaco Canyon as a case study. Special focus is placed on the collection and use of terrestrial LIDAR data for the catchment that encompasses two major Chacoan Great Houses, Pueblo Bonito and Chetro Ketl.

Dort, Wakefield (University of Kansas)

[278] *15,000-Year Record: Laminated Sediment Fill with Ice Wedge Inter-zones, Owl Cave, Eastern Snake River Plain, Idaho*

Partial collapse of a roof blister opened a lava tube to infill by eolian fine sandy silt. Rain and snowmelt caused remobilization and created thin laminations that characterized most of the final 5.5m-thick deposit. Episodic dry, cold intervals coeval with glacier fluctuations in the nearby Lemhi Mountains interrupted sedimentation and promoted formation of ice wedge episodes occurring between ca. 8,000 BP, when about 150 bison were slaughtered, and shortly after the 6,600 BP Mazama ash fall. A gritty basal unit was deformed by thixotropic flame structures, perhaps during a major earthquake.

Dotterweich, Markus [21] see May, Jared David

Doucette, Dianna (PAL)

[127] *Quarries, Workshops, and Campsites: A Rare Discovery in Southeastern New England*

Attleboro red felsite artifacts have been found on pre-contact sites all over New England ranging from PaleoIndian to Late Woodland periods. During a recent CRM survey, a 15-acre Attleboro red felsite quarry was discovered with every stage of the lithic reduction sequence represented. A small, associated campsite was also identified 180 meters away. This poster will display the characteristics of the quarry landscape, the distribution and usage range of this material for stone tool manufacture, and how a research design is formulated to mitigate the developmental pressures on such an important site before it is lost forever.

Douglas, Eduardo (Dept. of Art History, University of Wisconsin-Milwaukee)

[136] *From Cave to Grave: Metaphors of the Divine in Quinatzin Map Leaf 1*

This paper will investigate how Nahua patrons and painters in early-colonial-period Tetzcoco, Mexico, used the cave as a metaphor for the pre-Hispanic divine in the Quinatzin Map of c. 1542. Although the cave figures as a historical place associated with the Chichimec ancestors who first settled in the eastern valley of Mexico, the manuscript also qualifies it, by visual analogy and metaphor, as a place of divine creation, thus referencing pre-Hispanic notions of divine kingship.

Douglas, John (University of Montana)

[34] *Trade and exchange*

Charles Di Peso's pioneering research on northern Mexico created prehistory upon a tabula rasa. Unsurprisingly, the unprecedented evidence for exchange between Casas Grandes and distant regions looms large in his interpretations. Yet the "narrow and deep" approach to the fieldwork provided little regional or temporal context for these exchanges. Further, his hypothesis of a Toltec incursion specified that exchange was produced by a unified Mesoamerican mercantile system, which simplified and distorted the causes of exchange. This paper examines how reanalysis of the Casas Grandes data, greater regional understandings, and new theoretical approaches provide more dynamic understandings of multiple exchange networks.

Douglass, John (Statistical Research, Inc.), Benjamin Vargas (Statistical Research, Inc.) and Seetha Reddy (Statistical Research, Inc.)

[114] *Domination, Acculturation, and Resistance: Modeling Native American Responses to the Mission System in Southern California*

The Mission period in southern California was a time of upheaval and culture change for Native Americans. Eighteenth century Hispanic colonizers introduced new ideologies, technologies, and social structures that dramatically altered the nature of Native Californian society. Using archaeological and ethnohistoric data from southern California, we present alternative models to track how the Gabriellinos of the Los Angeles Basin responded to this Hispanic colonial intrusion. These models take into account emerging data that show Native American exposure to new traditions and how the incorporation of these Old World constructs varied dramatically between and within Contact period Native Californian communities.

Douglass, Matthew and Simon Holdaway

[169] *Investigating stone artifact transport through the measurement of cortical surface area in western NSW Australia*

We describe a test and application of the method for the interpretation of cortex in lithic assemblages proposed by Dibble et al. (2005). Experimental results support the method's accuracy, while archaeological application with Australian assemblages demonstrates a pattern of extensive artifact transport. These findings shed light onto the role curation and mobility play in the use and eventual discard of those artifact classes for which conventional measures of curation are not applicable. The results raise new questions about Aboriginal technological organization and land use, while simultaneously highlighting the complex relationship between past human behavior and archaeological assemblage content.

Douglass, Matthew [154] see Holdaway, Simon J.

Dow, Amanda [221] see Blakey, Janet S.

Downes, Jane [54] see Ovenden, Susan

Doyel, David (US Air Force, Luke AFB, Arizona), Adrienne Rankin (US Air Force, Luke AFB, Arizona) and Christian Black (US Air Force, Luke AFB, Arizona)

[12] *Agriculture in Native Economies in Western Papagueria, Arizona*

Native American subsistence adaptations to the low elevation, hot, arid Sonoran Desert on

the Barry Goldwater Range (East) in southwestern Arizona included hunting, gathering, and agriculture. Lago Seco and Verbena Village are several known huge, partially recorded agricultural sites situated in divergent environmental contexts. Overall, however, the history of agriculture and the diversity of strategies used are poorly documented. Utilizing field observations and inferences derived from the 1,200 site records in the GIS database for the Range, most of which are prehistoric in age, this paper explores the role of agriculture in settlement and economic systems in Western Papagueria.

[304] *Discussant*

Doyle, James (Brown University)

[112] *Riding in Style: Palanquins as Vehicles in Classic Maya Ritual Procession*
Throughout the Classic Period (AD 250-900), Maya artists depicted rulers employing royal litters, or palanquins, in scenes of military celebration, tribute payment, and dynastic foundation. This presentation outlines the various types of palanquins used by Maya rulers and creates a comprehensive listing of important palanquin scenes depicting pivotal historical figures and events. In addition to revisiting discussions of iconography and historical texts associated with palanquins at specific archaeological sites, this presentation will draw conclusions about the nature of Classic Maya movement and ritual procession and the rise of such vehicles.

Doyle, Sean (SWCA Environmental Consultants) and Kathryn Dumm (SWCA Environmental Consultants)

[8] *Standing Buildings and Historical Archaeology: A Methodological Approach for the Northern Rio Grande Region*
Historic buildings provide complete samples representative of particular periods or cultural groups; samples that can be used as a barometer for the interpretation of similar archaeological remains. This methodology is demonstrated in this poster by using two culturally and temporally affiliated sites examined by SWCA Environmental Consultants. The first is a series of standing buildings located within Valles Caldera National Preserve in north central New Mexico, the second is a razed homestead located in Huerfano County in southeastern Colorado. The two sites have been affiliated with early 20th Century (1900-1945) ranching activities in a mixed non-Hispanic and Hispanic Euro-American culture.

Drake, Eric [30] see Skibo, James M.

Driver, Jonathan (Simon Fraser University) and Shaw Badenhorst

[140] *Faunal remains from recent excavations at Pueblo Bonito*
Recent re-excavation of trenches through platform mounds at Pueblo Bonito resulted in the recovery of a large faunal assemblage. This paper outlines the composition of the faunal assemblages, compares results from the two mounds, and places the assemblage in the context of other great house sites in Chaco Canyon and beyond. Preliminary results suggest that lagomorphs formed an important part of the diet. When compared to other Ancestral Puebloan sites on the Colorado Plateau, artiodactyls occur in greater frequencies in the Pueblo Bonito sample.

DuBarton, Anne (NewFields International)

[46] *The Mountains to the Valley: Utilization of Environmental Zones In and Around the Las Vegas Valley*
Rockshelters located in bordering mountains along eastern Las Vegas Valley provide information to answer research questions regarding prehistoric settlement patterning and subsistence practices through a long time period. These same mountains contain extensive tool stone quarries providing an important resource to local populations. Reanalysis of previously recovered materials, and excavation and data recovery from additional River Mountains sites provides new insights into Archaic to Late Prehistoric occupations in the Las Vegas Valley. These sites provide data to test forager-collector models and have also provided information regarding interactions of several different ethnic groups during later periods of prehistory.

Dubreuil, Laure and Hugues Plisson (CNRS, ESEP)

[115] *Natufian flint versus ground stone tools: A use-wear perspective on subsistence change*

Use-wear and technological studies suggest that Natufian flint assemblages share several characteristics with Mesolithic assemblages of Europe, as both regions show an extensive production of microlithic tools mostly devoted to animal procurement and exploitation. In the Levant, this association seems to be rooted in previous cultural traditions. In contrast to flint tools, ground stone tools show the development of a new technology partly related to the exploitation of plants. This paper discusses the implications and symbolic significance of this flint versus ground stone tool dichotomy for our understanding of Natufian subsistence and plant exploitation behavior.

Dubreuil, Laure [189] see *Plourde, Michel*

Dudgeon, John (IIRMES, California State University - Long Beach) and Amy Commendador-Dudgeon (Sapphos Environmental, Inc.)

[11] *Phylogenetic analysis of prehistoric population structure: New insights from old genomic DNA*

Analyses of population structure in small-scale, highly-related populations suffer from the poor resolving power of macro-scale phenotypic traits of bony remains. In the Rapa Nui skeletal collection, previous attempts to resolve relatedness have employed metric and non-metric variation of the crania and the dentition, as well as some idiosyncratic congenital abnormalities of the post-cranial skeleton. Generally these efforts have produced some interesting, yet equivocal test explanations of the observed spatial variation on the island. We compare these studies, as well as the picture generated from stylistic variation of material culture, to molecular genetic data from old genomic DNA.

Dudgeon, John V. [99] see *Hogue, S Homes*

Dueppen, Stephen (University of Michigan)

[76] *Strategies for Maintaining Egalitarian Social Systems During the Iron Age: Kirikongo, Burkina Faso*

The basic building block for African societies, as elsewhere in the world is the village. However, the diversity of socio-political systems characterizing similar sized settlements throughout the continent is vast. At their core are novel and poorly understood forms of authority and power, which can be concentrated or dispersed through complex social strategies. Understanding intra-village organization and its materiality is fundamental to describing larger systems that build from or transcend these. This paper presents socio-political developments in western Burkina Faso at the village of Kirikongo, where organizational transformations during the Iron Age resisted the rise of institutionalized inequalities.

Duff, Andrew (Washington State University)

[15] *Crafting Community in the Face of Chaco*

Influential political and ideological developments impact the lives of many, altering the course of local histories. Such was certainly the case with Chaco Canyon, but not for all. Those more distant from the central area of impact reconfigured themselves on the landscape, enacting change and recrafting communities, a process that—on the southern edge of the Colorado Plateau—brought together individuals and groups with divergent histories. Regional and community-specific excavation and settlement data are used to document migration in the southern Cibola region and to suggest how this reconfiguration drew on Chacoan ideas and political strategies, yet privileged local historical experience.

[15] *Discussant*

[126] see *McDougall, Darin K.*

Duffy, Christopher [158] see *French, Kirk D.*

Duffy, Paul (GUARD)

[264] *Medieval Burial in St Nicholas Church, Aberdeen, Scotland: Skeletal Perspectives, Social Implications*

Excavations at The Kirk of St Nicholas Uniting, Aberdeen, Scotland in 2006 revealed well stratified burial and structural evidence demonstrating a continuum of ecclesiastical activity from the 12th to the 17th century AD. Recent skeletal analysis of the 930 individual burials has afforded a unique insight into the lifeways of the inhabitants of a high status medieval Scottish port. This paper presents the preliminary findings of the analysis of the largest secular medieval burial assemblage from Scotland and explores how aspects of this dataset contribute to our knowledge of medieval understandings of life and death.

Duffy, Paul (Museum of Anthropology)

[160] *Tell societies of Neolithic and Bronze Age Hungary: a spatial comparison*

This paper compares and contrasts the tell settlement systems of the late Neolithic with those of the Bronze Age in southeastern Hungary. Neolithic societies on the Great Hungarian Plain are normally described as tribal, while Bronze Age societies across Europe are often considered to be socially stratified. Using archaeological survey data from Békés county, spatial arrangements between tells and off-tell sites during both periods are explored to evaluate the hypothesis that new forms of social complexity emerged during the Bronze Age. Recent data from Gyepesi Átkelő, an Early Bronze Age off-tell site, are discussed in light of the results.

Dufoe Minturn, Penny [304] see Lincoln-Babb, Lorrie

Duke, Daron (Far Western Anthropological Research Group, Inc.), D. Craig Young (Far Western Anthropological Research Group) and David Page (Desert Research Institute)

[128] *Dating a Paleoindian Landscape with Obsidian Artifacts and Geoarchaeology*

Recent geoarchaeological studies and obsidian hydration analysis on the Old River Bed distributary system in western Utah provide much needed resolution to the timing of Paleoindian activities. Radiocarbon dates on "black mat" sediments of buried paleochannels suggest a window of use between 10,100 and 8,500 radiocarbon years ago. Obsidian hydration readings from artifacts associated with these paleochannels indicate that the method can provide resolution within this window, which is crucial to understanding how Great Basin Paleoindians coped with a rapidly desiccating environment.

Dumm, Kathryn [8] see Doyle, Sean M.

Dumond, Don (University of Oregon)

[245] *Technology, Typology, and Subsistence: A Partly Contrarian Look at the Peopling of Beringia*

Before 12,000 RCYBP, acceptable evidence for the peopling of Beringia involves microblades and wedge-shaped microcores that hark to Northeast Asia. But after 11,500 RCYBP, with opening of the ice-free corridor and changes in ecological regime, East Beringian artifacts and subsistence patterns also begin to include some that mirror interior North America, implying a contribution of population from that direction as well as a still more ancient human presence there. After 10,000 RCYBP, Paleoindian affinities become especially evident in interior Alaska, while some of the remnant microblade-makers of Asia-derived culture turn coastward and spread south along the Pacific littoral.

Duncan, Joshua (Cultural Resources, Inc and The College of William and Mary) and Mike Klein (Cultural Resources, Inc)

[284] *Middle Woodland Social Transformation in Chesapeake Bay Region*

Over the Middle Woodland period (300 B.C.-A.D. 900) in the Chesapeake region, the egalitarian hunter-gatherers of the Early Woodland evolved into the complex horticultural chiefdoms of the Late Woodland. The Middle Woodland archaeological record, therefore, offers the opportunity to examine, at temporal and spatial scales beyond those considered by ethnographers, the social and environmental processes underling the transformation of

a communal social form into a hierarchical social order. Here we examine archaeological data from the heart of Powhatan's Chiefdom to investigate the relationships between changes in ecology, demography, means and relations of production, and ritual activity on social transformation.

Dungan, Katherine (University of Arizona)

[46] *A GIS Analysis of the Chacoan Community at Kin Bineola*

Kin Bineola is one of a set of "outlying" Chacoan great houses located outside Chaco Canyon itself, but still in relatively close proximity to the Chacoan core. Aside from the great house itself, the cluster of archaeological remains surrounding the Kim-me-ni-oli Wash contains both an isolated great kiva and another structure with possible "Chacoan" architectural features. This project uses GIS-based analytical techniques to explore the possible roles played by these unique structures in the social, sacred, and economic landscapes created and experienced by the people of the Kin Bineola community.

Dunn, Stacy (Tulane University Department of Anthropology)

[131] *Standing Guard at La Centinela and others: Mapping Contemporary Changes in Site Boundaries at Late Intermediate Period Adobe Complexes, Norte Chico, Peru*

Rapid site destruction by modern influences is a major issue for archaeologists. For the Huaura Valley, Peru, rates of site loss over time have amplified dramatically despite increased efforts of the Instituto Nacional de Cultura. To better quantify negative impacts, percentages of site loss were calculated by layering current satellite images, maps from 2005 and 2007, and 1940s aerial photos for several sites. LIP adobe complexes were the focus of analysis, since their above-ground architecture and elaborate burials are most frequently the subjects of severest damage. An overall pattern was identified for factors needing urgent response and several remedies proposed.

Dunn, Stuart (Arts and Humanities e-Science Support Centre)

[183] *A marriage of convenience: the possibilities of Service Oriented Architecture and Web 2.0 for digital archaeology*

Service-oriented architectures (SOAs) integrate and repackage heterogeneous computer services and data, so they do not have to be redesigned for new purposes. Web 2.0 technologies allow users to integrate and repackage services and data themselves. The relationship between Web 2.0 and SOA is therefore important. Here we review ways of combining them to deliver online archaeological services and complex data to user communities. We will draw on the UK's Web 2.0-type portal (www.arts-humanities.net), various theoretical SOA approaches, and existing archaeological and related collections, services and data; and present a research agenda for linking Web 2.0 and SOA for archaeology.

Dunnell, Robert and James Feathers (University of Washington)

[11] *A New Approach to Ceramic Chronology in the Mississippi Valley*

Seriation has been the mainstay of ceramic chronology for over half a century in the Mississippi valley. Initially employed as an empirical method, its theoretical rationalization has led to an expansion of interest and application recently. Here we combine these new understandings of the method with the unique ability of luminescence dating to "date" individual sherds in order to test the neutrality of ceramic types and modes. New information about the tempo and mode of ceramic change is generated and, with accumulation of larger samples, should produce the most robust chronology yet developed.

Dunnell, Robert [11] see Harper, Veronica A

Dunning, Cynthia [65] see Chevallier, Barbara

Dunning, Nicholas (University of Cincinnati), Robert Griffin (Penn State University) and Tom Sever (NASA)

[158] *Ancient Maya Canals in the Bajo de Azucar, Peten, Guatemala*

Scholars have long puzzled over the ancient use of swampy depressions (bajos) in the interior of the Maya Lowlands. Part of this debate has centered on the reputed, but

undocumented, existence of canals in the bajos of the northeastern Petén. We report on the use of satellite imagery to reveal several apparent canals in the Bajo de Azúcar, the largest bajos in the NE Petén. Ground-truthing and excavation was carried out at one canal near Isla Oasis in 2007. We surmise that the canals most likely functioned principally to facilitate transportation across the bajo, though other uses are also possible.

[109] Co-Organizer

Dunning, Nicholas [319] see Jones, John G.; [319] see Casile, Claudette A.; [158] see Akpinar, Ezgi

Dupras, Tosha (Department of Anthropology), Elizabeth Wallace (University of Central Florida) and Lana Williams (University of Western Ontario)

[217] *GIS Analysis of Stable Carbon Isotopes and Seasonality in the Kellis 2 Cemetery, Dakhleh Oasis, Egypt*

This GIS study examines interrelated patterns within the Kellis 2 Cemetery (50 – 450AD), Dakhleh Oasis, Egypt, for indications of seasonality. Using stable carbon isotope analysis of preserved hair, a distinction is made between diets based completely on C3 plants, and those supplemented with C4 plants. Enrichment or depletion of C13 isotope values along the hair shaft (from tip to root) indicates a shift in diet that is seasonally dependent. Preliminary GIS results show distinctive patterns of seasonality in the C13 data that correspond to patterns of burial, supporting previous findings on seasonality of death, especially among adult females.

Dupras, Tosha [217] see Wallace, Elizabeth

Duran, Víctor (CONICET), Gustavo Neme (Museo de Historia Natural de San Rafael), Martin Giessو (Northeast Illinois University), Michael Glascock (Missouri University Research Reactor) and Valeria Cortegoso

[241] *Obsidian source use in the central Andes of Argentina and Chile*

This paper presents the compositional analysis results of 450 obsidian samples from the central Andes of Argentina and Chile using XRF and NAA. The samples include both raw materials from obsidian sources and artifacts from archaeological sites. The analyzed materials come from 58 archaeological sites spanning the Holocene, and six raw material sources. The sample locales represent a wide range of environments between 32 and 37 degrees South latitude. Our results show that all of the obsidian sources analyzed were used prehistorically, but with different intensities and chronological tendencies.

Durán, Víctor [57] see Cortegoso, Valeria

Durand, Kathy [223] see Snow, Meradeth

Durand, Stephen (Eastern New Mexico University) [266] *Discussant*

Duranleau, Deena [289] see Chilton, Elizabeth

Dussubieux, Laure [319] see Laffoon, Jason E.; [231] see Burger, Richard L.

Duwe, Sam (University of Arizona)

[46] *Group Identity in the Protohistoric Tewa World: An Architectural Analysis of Three Classic Period Tewa Pueblos*

This project uses architectural analysis to examine the ways in which group identity was created and transformed among Classic Period (AD 1325-1600) Tewa communities during population coalescence in the Tewa Basin of northern New Mexico. The surface mapping of three large pueblos in the Rio Ojo Caliente valley will produce information on construction sequences and changes in ritual elaboration through time, which correlate with expressions of group identity. When combined with published and archival data this information will aid in understanding the social consequences of population coalescence and the ways in which coalescence shaped the historic Tewa identity encountered by the Spanish.

Dwyer, Rachel (SUNY-University At Buffalo)

[192] *Macrofloral analysis results from the Curtwright site, Clarence, New York: Evidence of red dye production*

Flotation samples from the Curtwright site (1400-1500 AD) in western New York were analyzed. The presence of certain carbonized plant remains indicates that the site was occupied for a short time starting in midsummer until the beginning of fall. Although some recovered materials are consistent with mixed maize/gourd/squash agricultural activities, the ubiquitous presence of *Galium* sp. (common name: Bedstraw) seeds suggest that red dye production may have been a major activity at the site. During the Late Woodland, dye manufacturing (especially red hues) may have had social, economic, and ideological significance.

Dyke, Arthur [17] see *Savelle, James M.*

Dykeman, Douglas (Dykeman Roebuck Archaeology) and Paul Roebuck (Dykeman Roebuck Archaeology)

[62] *Navajo Emergence in Dinétah: Social Imaginary and Archaeology*

Many scholars speculate that Navajo culture arose as Athabascan migrants gradually adopted Puebloan traits and maize agriculture following the Pueblo refugee period of the late 1600s. Recent archaeological work in Dinétah, the traditional Navajo emergence place, reveals sites dating from 1541 to 1625, rich in Navajo artifacts, diverse economies, and robust maize agriculture. The prominence of maize in these earliest sites is consistent with its importance in the Navajo social imaginary expressed in traditional Navajo creation accounts. Tradition and archaeology show that Navajo culture emerged quickly, distinct from Puebloan and other Athabascan groups, 150 years before the Pueblo Refugee Period.

Dyson, Stephen

[195] *Mute Loot Speaks: National Affirmation, Cosmopolitan Identity and the Disembodied Classical Past*

This paper explores the relationships between looted objects, classical identity, and archaeology and nationalism in Greece and Italy. First I consider the role of looted objects in creating a post Renaissance international classical identity. Then I discuss how the new nations of Greece and Italy used control of archaeology to shape their own historical identities. That drove the antiquities market more underground. Next I consider how massive post World War II site destruction forced archaeologists to support the national antiquities agendas. Finally I consider how museums are now using a 'new' cosmopolitanism to justify a continuing trade in unprovenanced material.

Dziedzic, Erica (Michigan State University)

[83] *That Pot Has a Pretty Picture: Preliminary Research on Chiribaya Ceramic Iconography*

A considerable amount of research has been conducted exploring the cultural patterns of the Chiribaya, a Late Intermediate Period (AD 900/1000–AD 1350) material culture located on the southern coast of Peru. However, few questions have been asked that incorporate the iconography of ceramic vessels associated with this group. This paper presents preliminary research using iconographic data on pottery from mortuary contexts, most notably from the cemeteries of Chiribaya Alta and Chiribaya Baja. I will discuss the distribution of Chiribaya ceramic iconography from the Osmore coast to the midvalley, allowing a new look at socio-economic, social, interactive, and design patterns.

Eagle, Rita [275] see *Crossen, Kristine J.*

Earle, Timothy [241] *Discussant*

Earley, Caitlin (University of Texas at Austin)

[310] *The Power of Landscape: Social Interaction and the Right to Rule in the Built Environment of Utatlán*

This paper examines the physical and social landscape of Utatlán, a Postclassic highland capital, illuminating the ways in which the city founders created a sacred center for a rapidly expanding empire. From Central Mexican imagery and architecture to manmade caves extending beneath the central plaza, the city was a deliberately constructed space, designed to occupy a specific conceptual position on the landscape through references to mythic ancestors and the creation of mankind. Additional investigation of imagery and architecture at neighboring capitals demonstrates how elites throughout the highlands justified their rule by manipulating the interaction between people and the built environment.

Earnest, Howard (Prentice Thomas and Associates), Kathryn Sampeck (Tulane University) and Markus Eberl (Tulane University)

[233] *Competing styles, Competing Identities on the Post-Ilopango Frontier*
Communities achieve integration despite inherently heterogeneous members. The inhabitants of La Viuda near San Salvador were the first to resettle the area devastated by the Ilopango volcanic eruption in A.D. 425. Motifs and style on the earliest polychromes at this site are echoed in subsequent Copador pottery. The rendering of a standard repertoire of "pseudoglyphs" as well as associated iconography on Copador ceramics suggest the existence of competing identities within this frontier village.

Eastaugh, Edward [17] see Hodgetts, Lisa; [17] see Dawson, Peter C.

Easton, Norman (Yukon College), David Yesner University of Alaska Anchorage, Glen MacKay (Prince of Wales Northern Heritage Center), Patricia Bernice Young (University of Alaska Fairbanks) and Peter Schnurr (University of Alaska Anchorage)
[275] *Nenana In Canada - Emergent Evidence of the Pleistocene Transition in Yukon's Southwest Beringia as Revealed by The Little John Site (KdVo-6) and Related Regional Survey*

KdVo-6 is a multi-component site located along Mirror Creek, a tributary of the Chisana-Tanana Rivers, ~10 km east of the Yukon-Alaska border. Besides stratified Historic, Late Prehistoric, and Northern Archaic occupations, the site contains lower layers with microblades and Chindadn points assignable to the Denali and Nenana complexes. Local topography has created two loess sequences: one thin (~30cm) in the west, the other thick (>130cm) in the east. Faunal remains from the eastern lobe are well-preserved; AMS dates indicate occupation 10-11kyr. This paper presents results through 2007, putting KdVo-6 in the context of the existing culture-historical framework of Eastern Beringia.

Easton, Norman Alexander [260] see Young, Patricia Bernice

Ebbett, Alicia [293] see Garver, Lydia

Ebbitt, Alicia (Indiana University)

[293] *Archaeology Education as a Balancing Act: Combining Archaeological Goals, National Agendas, and the Knowledge of Young Local Citizens*
Members of the Chau Hiix Archaeological Project in Belize have been engaged in educational initiatives with the local community for over 15 years. Project members balance the goals and interests of archaeologists, national curriculum designers, and local citizens. In order to improve education efforts at Chau Hiix, I attempted to evaluate how young local citizens learn about archaeology and cultural resources. In this paper, I will discuss past public outreach of the Chau Hiix Project, my recent research, and my goals for using archaeology education to instill different values and create globally aware and critically thinking concerned citizens.

Eberl, Markus (Tulane University)

[233] *Internal and external aspects of community integration: A study of ceramic motifs south of Aguateca*
The community exemplifies a social unit that is integrated by shared experiences, practices, and expectations. It is formed at the same time within the larger framework of a culture. This paper explores the dynamic interplay between internal and external aspects of

community integration by looking into the iconographic motifs on domestic ceramics from Late Classic Maya sites south of Aguateca (Petexbatún region).

[233] *Chair*, **233** see *Earnest, Howard H.*

Ebert, James [270] see *Hitchcock, Robert K.*

Eckerle, Bill [214] see *Byers, David A.*

Eckert, Suzanne (Texas A&M University)

[290] *Applying Practice Theory to Understand the End of Pottery Production in Samoa*
Approximately 1000 years ago in Samoa, potters quit making ceramic vessels after a 2000 year tradition of pottery production. Numerous explanations have been proposed to explain why pottery production stopped, including poor materials, changes in cooking technology, and changes in the subsistence base. Careful consideration of these explanations finds them all to be problematic. Rather, I suggest that pottery production ceased as a result of decisions made by potters in the face of changing social dynamics brought on by an increasingly complex power structure.

Eckert, Suzanne [156] see *Roberts, Andrew P.*

Eddy, John (California State University, Northridge and CRM TECH)

[80] *Local adaptations and regional influences: Cultural development in the Southeastern Desert Region during the Late Archaic (ca. 2000 BC-AD 700)*

Recent archaeological investigations in the western Colorado Desert have uncovered evidence suggesting that a shift in site settlement strategy occurred in the Southeastern Desert Region within mid-to-late Gypsum and early Rose Spring Complexes. The shift from short-term habitation indicative of highly mobile hunter-gatherers to intensively occupied longer-term residential settlement is marked by the emergence of pit houses, living floors, and roasting features in the western Colorado Desert. Internal and external factors leading to this shift will be discussed in light of archaeological evidence implicating southeastern desert cultural interaction with neighboring regions.

Edgar, Heather (Maxwell Museum of Anthropology) and Shamsi Daneshvari (University of New Mexico)

[20] *Complex taphonomic processes at a historic Albuquerque cemetery*

The cemetery associated with the Alameda Hacienda, just north of Albuquerque NM, was in use from approximately 1800 until 1903. Recent excavations involved removal of full or partial remains of approximately 130 individuals from a 9.3 E/W x 6.2 N/S x 1.5d meter area. Several factors, including serial interment and disinterment, flooding, utility installation, and road and house construction, resulted in a highly disturbed and complex context. Additionally, it is not known what proportion of the cemetery was excavated. In this presentation we describe approaches to reconstructing cemetery history, demography, paleopathology, and estimating the minimum number of individuals.

Edinborough, Kevan (Simon Fraser University)

[286] *Modeling prehistoric population histories in terms of the global 8.2K abrupt climate change event. Case studies from two ecologically distinct regions, Northwest Europe and Southern Levant.*

A comprehensive database of georeferenced 14C dated archaeological phases has been constructed for two geographically separated archaeological regions. The period spanning the 8.2K event is divided into a series of time-steps. Non-redundant radiometric dates from each time-step are summed and used as a proxy for population size. Spatial-temporal orderings of key environmental, socio-technological and demographic events are reassessed in terms of case-specific population dynamics.

Edvardsson, Ragnar [246] see *Hambrecht, George N.*

Edwards, Joshua (SWCA)

[222] *Subsistence Strategies, Community Integration, And Ritual Of The Alp Project: Faunal Remains During The Pueblo I Period In Ridges Basin, Colorado*

Patterns of animal type and size frequencies across Ridges Basin and Blue Mesa, Colorado, reflect not only environmental landscape position, but also differences in cultural identity and community integration during the Pueblo I period. This zooarchaeological research seeks to tease out how and to what extent different groups consumed and treated different animal types, and the nature of their involvement in communal rituals at key sites throughout the basin, particularly at the large village site, Sacred Ridge.

Edwards, Matt (University of California, Santa Barbara), Camila Capriata Estrada (Pontificia Universidad Católica del Perú) and Sarah J. Abraham (University of California, Santa Barbara)

[88] *Finding Architectural Order at Pulapuco, Lucanas, Peru: A Statistical Attribute Analysis*
The poster will graphically present the results of a statistical and spatial analysis of architectural attributes at a late period archaeological site in the southern highlands of Peru. Basic characteristics of form, construction, and materials were recorded in the field for most of the structures located on the site. These data were then examined using a combination of multivariate statistical techniques and GIS-based spatial analysis. The results were then compared with other lines of evidence to produce inferences regarding culturally meaningful spatial relationships at this large and complicated site.

Edwards, Susan R. [212] see Beck, Colleen M.

Eerkens, Jelmer (University of California, Davis)

[101] *Hunter-Gatherer Diet Specialization in the Central Eastern California*
Hunter-gatherers occupying the arid regions of eastern California in the rain shadow of the Sierra Nevada mountains display two distinct periods of dietary specialization. The first around 3000 years ago was focused on large game. The second around 600 years ago was focused on small-seeded plants. Traditional explanations relying on simple models implicating population pressure and/or climate change as catalysts have been questioned in recent years. It is not that these factors are unimportant, more that more nuanced explanations showing how these processes affect human behavior are needed.
[88] *see Vaughn, Kevin*

Efremov-Kendall, Nicholas (Washington University, Dept of Anthropology)

[190] *Pastoralism in the Western Eurasian Iron Age: Looking beyond the Kurgan Evidence*
Current models of Iron Age pastoralist societies in Ukraine are largely based on perceived connections between burials and historical records, which are used to reconstruct culture-historical processes and events; often in the complete absence of archaeological data and anthropological theory. Although scholars have begun to recognize the limited utility of this approach, there are few critical studies of Iron Age pastoralism in the western steppes. In an attempt to fill this lacuna this paper focuses on the evidence for a pastoralist component to political economy of Chernolesska communities of western Ukraine.

Eggers, Sabine [139] see Okumura, Maria M.; [139] see Boyadjian, Celia

Ehrhardt, Kathleen

[96] *Copper Working Technologies, Contexts of Use, and Social Complexity in the Eastern Woodlands of Native North America*
The varied and creative ways in which native North Americans of the Eastern Woodlands utilized copper throughout prehistory and into the historic period present provocative contrasts to models of Old World metallurgical development. In this paper, I examine copper use in Archaic, Middle Woodland, Mississippian, and early historic contexts, focusing on the complex relations among levels of technological sophistication in the manipulation of the material itself (did they ever actually constitute "true" metallurgy?), the often elaborate and meaning-laden contexts in which artifacts were used, and the relative social complexity of the cultures that supported copper use.

Ehringer, Candace (EDAW, Inc.)

[82] *Mortuary Consumerism in 19th-Century Los Angeles: Coffins, Caskets, and Trimmings from City Cemetery*

The rise of mass-produced caskets and decorative hardware in the mid-19th-century United States coincided with advances in transportation that facilitated shipping these goods from East to West. Western urbanites were supplied with greater selection as local coffin makers and undertakers embraced the easier practice of importing burial containers and trimmings, providing showrooms and acting as full-service “funeral directors” instead. The assemblage at City Cemetery is analyzed through a comparison with contemporaneous trade catalogues and cemeteries across the US to determine the effect of the increased availability and greater affordability of mass-produced goods on consumer choices in 19th-century Los Angeles.

Eid, Patrick (Université De Montréal)

[189] *Technology and Traceology : The Chaîne Opératoire of Toualdi chert, Témiscouata (Québec)*

During the Woodland period, the Témiscouata region located in northeastern North America at the boundaries of Quebec, New-Brunswick and Maine, was visited repeatedly by mobile hunter-fisher-gatherers notably attracted by the lithic raw material available: Toualdi chert. Two prehistoric quarries are known in this region, which are associated with many archaeological sites showing all stages of manufacture and use. In this context, a technological analysis in the French tradition using chaîne opératoire combined with use wear studies is particularly interesting for reconstructing the techno-economic system of Toualdi chert exploitation both in a regional and chronological perspective.

[189] Chair

Eigeland, Lotte (Museum of Cultural History, University of Oslo)

[159] *No man is an island*

The question of skill and transmission of knowledge has never been addressed in stone age archaeology in Norway. In Norway there is no indigenous flint, only relatively scarce resources of ice transported flint nodules found along the coast. Still, we find high quality workmanship in flint, so there must have existed an apprenticeship. With so little flint available – what is the nature of the apprenticeship? Does the teaching methods become innovative or limited? Will there, socially, be restrictions concerning who or how many that can learn to knap? Geographically, can the apprenticeship only be carried out by the coast? This paper will address these questions using a number of island sites from the late mesolithic in eastern Norway as a case study.

[159] Co-Organizer [159] Chair

Einarsson, Bjarni F. [246] see Palsdottir, Albina H.

Eiselt, B. Sunday (Southern Methodist University)

[260] *The Southwest Athapaskan Equation. Enclave Ideology in the Colonization of New Mexico by the Jicarilla Apaches*

Jicarilla Apache movement from the Plains into the northern Rio Grande after 1730 is marked by changes in settlement, economy, and landscape connections. This process of “enclavement” was facilitated by the occupation of open ecological niches created by the Spanish land grant system and expansion of trade to include new ethnic groups on the frontier of Colonial settlement. Micaceous clay source utilization and archaeological site distributions map the personified universe of the Jicarilla and reveal the essential underpinnings of the enclave ideology supporting colonization. Similar strategies may have conditioned prehistoric population movements on the plains and Athapaskan migration more generally.

[260] Chair [260] Co-Organizer

Eisenhauer, Nancy (SWCA Environmental Consultants)

[222] *Bangles, Beads and Bling: Personal Adornment Among the Ancestral Puebloan of Ridges Basin*

Jewelry in modern societies helps define an individual, but what can it tell us about prehistoric peoples? Almost 200 of pieces of personal adornment were recovered during the Animas-La Plata Archaeological Project, near Durango, Colorado. What functions did these ornaments, which required an investment of time and labor to produce, serve in this

Pueblo I-period society? Simple aesthetics undoubtedly played a role, but inferences about social status, trade networks, and clan affiliations can also be generated through the study of the ornaments found in Ridges Basin.

Eitam, David (The Hebrew University of Jerusalem, Institute of Archaeology)

[115] *A Look at the Natufian Culture through a "Stone Hole"*

This study focuses on a late Epipalaeolithic groundstone installation – the oblong conical mortar (OCM) - examines the ways in which it relates to subsistence strategies during the Natufian. It is hypothesized that OCMs were used to separate chaff from threshed wild barley. This supposition is being investigated using ethnographic parallels, historical evidence, and experimental studies. Studies of the final Natufian site of Huzuk Musa in the lower Jordan and the late Natufian site of Rosh Zin in the Negev highland valley are presented to evaluate the place of wild barley in the Natufian diet.

Ek, Jerald (SUNY Albany)

[253] *From Peripheral Kingdom to International Trade Center: Understanding Political, Economic, and Demographic Change at Champotón, Campeche*

Recent research in the Río Champotón basin in Campeche, Mexico has radically altered previous notions about the important prehispanic coastal polity of Chakan Putun. Settlement survey data reveal a pattern of regional-scale occupational continuity from the Formative Period through Spanish Contact, interrupted by a series of intra-regional demographic shifts. Ongoing excavations will examine the economic foundations of the Classic to Postclassic transition. Preliminary results of the project provide insight into the mechanisms through which the peoples of Chakan Putun weathered the political turmoil associated with the collapse in the Southern Maya Lowlands and flourished in the ensuing Postclassic period.

El Hajraoui, M. Abdeljellil [205] see Schurmans, Utsav A.

Eldridge, Morley (Millennia Research Ltd) and Diana Cooper (Millennia Research Limited)

[321] *Harpoons, wedges and wool dogs: archaeological investigations at a late Marpole phase village site (DhRx-101), Nanaimo, BC.*

Investigations at the Nanaimo Foundry site revealed a rich but partial record of a single occupation village approximately 1,500 years old dating to the late Marpole phase. Thirteen classically diagnostic unilaterally barbed harpoons, usually assumed to be for hunting large sea mammals, were found but sea mammals were very rare in the faunal assemblage. The artifact assemblage also includes a remarkable 48 antler wedges, as many as from 18 other Marpole sites combined. Weaving technology evidence included both wool and bark. A spindle-whorl and many individuals of the purpose-bred domestic wool-dog were found; the latter sometimes in ritual interments.

Eldridge, Stuart (Northern Ecological Associates, Inc.)

[305] *Allegheny Mountain High: Late Archaic Hunter-Gatherer Upland Adaptation on the Northern Appalachian Plateau*

The Northern Ecological Associates, Inc., Archaeological Services Group performed an archaeological investigation in the Allegheny National Forest for the USDA-Forest Service Willow Creek ATV Trail Expansion Project. The investigation focused on 60 miles of proposed modifications to the trail system in rugged, upland terrain and identified five previously unrecorded prehistoric rock-shelters and seven open-air sites. This sample of small, task-oriented sites revealed significant information about Late Archaic period hunter-gatherer upland adaptation, continuing the effort to build a comprehensive scenario of prehistoric settlement and subsistence in western Pennsylvania and presenting implications for effective survey methodology.

Elia, Ricardo (Boston University)

[195] *What We Lose: Looting and the Decontextualization of the Past*

Collectors and curators often claim that the acquisition of undocumented artifacts is a noble act of rescue akin to adopting orphaned children. This paper explores the consequences of

collecting looted archaeological objects on both the archaeological record and archaeological inquiry. The destruction of archaeological context and corruption of scholarship that follow looting suggest a new analogy: collectors are not rescuing orphans, they are killing the parents and kidnapping the kids.

Elkins, Joe [9] see May, Elizabeth M.

Elkins, Melissa

[4] *Mogollon Brown Smudged Ware Ceramics in the Chacoan Frontier World: Reflections on Style, Function, and Identity*

Residents of Chacoan outlier sites on the southern boundary of the regional system likely shared a "frontier experience" characterized by co-residence of Mogollon and Pueblo people with loose ties to Chaco ideology. In east-central Arizona and west-central New Mexico, late Pueblo II communities (A.D. 1050-1150) exhibit an abundance of Mogollon brown ware and few Pueblo gray and painted red wares. This poster assesses the technology and distribution of smudged brown ware using vessel size, apparent porosity, and protein residue analyses to determine function and raw material choice. The potential use of Mogollon Brown Smudged bowls as ethnic markers is emphasized.

Elkins, Nichole [9] see May, Elizabeth M.

Ellick, Carol (SRI Foundation)

[293] *A Meta-evaluation: Reviewing Previous Evaluations of Archaeological Education Programs*

In 2007, the SRI Foundation conducted a meta-evaluation of previous evaluations of archaeological education programs within the United States. This review was confined to research on programs that target children in grades K-12. Information was collected on the types of programs evaluated, the purpose of the evaluations, program areas evaluated, types of instruments and evaluation methods used, methods of data analysis, and study findings. This paper will describe the results of the meta-evaluation and comment on the applicability of past research in structuring and implementing future evaluations of archaeological education programs.

Elliott, Elizabeth, Ian Kuijt (University of Notre Dame) and Laura Plis (University of Notre Dame)

[216] *The Landscape of Abandonment: Archaeological and Historical perspectives on 18th and 19th century Western Connemara*

The coastal landscape of western Ireland is etched with physical traces of the famine, emigration, and changing land-use systems. Abandoned 18th and 19th century houses, overlapping layers of agricultural systems, and famine burial sites are physical testaments to the remnants of past life-ways. Drawing upon archaeological remains, historical records, and oral accounts, we create a multi-faceted understanding of rural life in western Connemara. Understanding the material transformation of the cultural landscape, aids us in reconstructing rural cycles of abandonment, the movement of people within isolated coastal communities, and the social impact of local emigration.

Elliott, Elizabeth [281] see Quinn, Colin P.

Elliott, Gabrielle (BLM) and A. Dudley Gardner (Western Wyoming College)

[66] *Cultigens and Storage Facilities During the Formative Period in Northwestern Colorado 800-1200BP*

During the Formative Period in Northwestern Colorado it appears the Fremont cultivated sunflowers, chenopodium, and maize. It is unclear as to how sunflowers and chenopodium were stored, but distinct maize storage facilities appear in the region between 800 and 1200 BP. In this paper we will look at the variability of construction styles and offer some suggestions as to the nature of the cultigens stored in the structures. We will also briefly detail the nature of corn stored in living spaces as opposed to granaries.

Elliott, Michael and Marie-Blanche Roudaut (Tierra)

[126] *Flaked Stone Technology and Cultural Affiliations at Two Late Archaic Sites in Northeastern New Mexico*

Northeastern New Mexico is an area exhibiting considerable cultural mixing. Cultural affiliations during the Archaic period in this region remain unclear. Recent research here suggests that a mixture of Plains and Plateau traits at Archaic sites likely relate to long-term interactions between these cultural groups. This poster presents the results of the analysis of the flaked stone technology at two late Archaic sites in northeastern New Mexico and examines their cultural affiliations.

Elliott, Michael [97] see Oster, Elizabeth A.

Elliott, Michelle, Ben Nelson (Arizona State University) and Christopher Fisher (Colorado State University)

[97] *Human Occupation and Desertification in the Malpaso Valley, Zacatecas, Mexico*

The modern Malpaso Valley is characterized by erosion, arroyo incision, and xeric vegetation. Throughout the Middle to Late Classic period (AD 500-900), however, the valley supported a ceremonial center (La Quemada) and over 200 contemporaneous villages. Investigators have proposed that the establishment and collapse of these sites north of the Mesoamerican core was related to drought cycles. Through archaeological, paleoethnobotanical, and geoscience data, I examine the links between human occupation and desertification in the valley over the past 4,000 years to determine when current environmental conditions took effect and what role climate and human impact played in this process.

Elliott, Michelle [204] see Turkon, Paula

Ellis, David (Willamette Cultural Resources Associates)

[142] *Power and Authority on the Lower Columbia: An Archaeological Perspective*

Past archaeological research in the lower Columbia River region has tended to address social dynamics using simplistic models based on limited ethnohistoric information. More recent archaeological research has provided data that allow us to develop models that recognize more complex social dynamics. This paper explores these new models and revisits past interpretations of the archaeological and ethnohistoric records.

Elston, Robert (UNR Desert Research Institute) [101] *Discussant*

Emans, Rebecca

[284] *Repeated Migrations: Cultural Change on the Allegany Plateau of Southwestern New York*

Late Woodland development in the Northeast has traditionally been explained through in situ development. More recent interpretations have argued for single migration episodes. This paper presents evidence of two episodes of migration onto the Allegany Plateau of southwestern New York. The first involves the migration of groups related to Monongahelans of western Pennsylvania around AD 1250. The second is the migration of Niagara Frontier Iroquoians into the area about fifty years later. This paper presents a case study relevant to the interpretation of prehistoric migrations in general, as well as a reinterpretation of cultural developments of the area.

Embree, Cristin (California State University, Los Angeles)

[225] *The Role of Indian Cave in Northern Arizona*

The purchase of Indian Cave by a consortium of recreational cavers provided the author with a unique opportunity to pursue an archaeological investigation in a highly understudied region of Arizona. Caves in the Southwest have long been known as the loci of a wide range of ritual activities, yet little research has been done in this area, and no published studies of prehistoric dark zone caves have been made. The purpose of this paper is to assist not only in clarifying settlement patterns, but to develop a paradigm for distinguishing between utilitarian and ritual assemblages in a cave context.

Emery, Kitty (FL Museum of Natural History) and Linda Brown (The George Washington University)

[61] *Ethnoarchaeological Studies Of Animal Material Disposal Patterns In The Southern Maya Lowlands And Implications For Maya Zooarchaeology*

Zooarchaeological assemblages from the southern Maya lowlands are typically small and dispersed across site deposits. Studies of animal material disposal patterns in the Maya villages around the Petén Itzá Lake, Guatemala suggest that one explanation may lie in specific organic material discard behaviors: curation for utilitarian, ritual, and medicinal purposes; discard at distances from residences and separate from non-organics; 3. discard in deep waters, buried at depths, and in communal locations; and 4. permanent discard through burning. This paper details this complex of animal material disposal behavior and discusses the implications for Maya zooarchaeology.

Endonino, Jon (University of Florida)

[148] *Complex Neighbors to the North: Hunter-Gatherers, Monuments, and Mortuary Mounds in the St. Johns River Valley, Florida*

Monument construction is incongruous with most people's view of hunter-gatherer societies. Ethnographic stereotypes and questionable complexity checklists have combined to obscure atypical and potentially complex behaviors among prehistoric foragers. Evidence for monument construction and complex hunter-gatherers first emerges in south Florida during the Mid-Holocene. Similar developments were underway at about the same time to the north in the St. Johns River Valley (SJRV). This paper reviews evidence for monumental architecture and hunter-gatherer complexity in the SJRV emphasizing recent excavations at the Thornhill Lake site, a complex of shell ridges and mortuary mounds dating from 6300-4500 Cal. B.P.

Eng, Jacqueline (Mount Holyoke College)

[249] *The Great Wall Divide: A Bioarchaeological Study of Nomadic Pastoralism and Sedentary Agriculturalism*

The Inner Asian frontier has been defined as a zone of interaction between politically and economically opposing cultures: nomadic pastoralists and sedentary agriculturalists. To understand how the neighboring cultures of China and the northern steppes developed with such striking differences in economic and social organization, it is necessary to explore the ecological contexts in which these cultures emerged. Differences in ecological conditions help explain how the environment influenced the trajectories of their development. Furthermore, bioarchaeological analysis of skeletal data from ancient frontier populations who lived during different time periods offers new insights into the health consequences of these processes.

Englehardt, Joshua

[314] *Processes of Mimesis, Identity Formation, and Alterity in the Maya Epigraphic Record*

The utilization of writing can be a powerful tool in the creation of identity, and an inspection of the development of the Maya script system illuminates processes inherent in the notional constructs of mimesis and alterity. This paper will examine specific instances extant in the glyptic record involving the use of iconographic imitation and glyptic usurpation to define, assert, control, or reconfigure group identities in ritual contexts. Such examples may yield more profitable interpretations when viewed through the theoretical lens of mimesis and alterity. Particular attention will be paid to u-KAB'-ji constructions and Tikal Stela 31.

Enk, Jacob (University of Utah), David Yesner (University of Alaska Anchorage), Dennis O'Rourke (University of Utah), Doug Veltre (University of Alaska Anchorage) and Kristine Crossen (University of Alaska Anchorage)

[256] *Genetic Analysis of a Mid-Holocene Woolly Mammoth from the Pribilof Islands, AK*
We report mtDNA sequence of the cytochrome b gene in the most recent woolly mammoth discovered in North America (6000yBP, Qagnax Cave, St. Paul Island, AK). The Qagnax Mammoth possesses several unique polymorphisms not found in other mammoths.

Phylogenetic analysis suggests that its isolation from at least Siberian mammoths occurred long before the submergence of the Bering land bridge, as it is most similar to mammoths

from eastern Beringia. One possibility is that this individual was a member of a population that migrated westerly along the southern coast of the land bridge during the terminal Pleistocene and early Holocene.

Enloe, James (University of Iowa)

[69] *Specialization, Diversification and Global Warming: Changes in Faunal Exploitation in Tardiglacial France*

Dramatic climatic oscillations at the end of the Pleistocene resulted in variable rates of change in floral and faunal communities in western Europe. Human adaptation to dynamic environmental conditions exhibited rapid changes, both repetitive and directional. These are primarily reflected in the faunal record of late Paleolithic archaeological sites by shifts in species exploited, hunting tactics and methods of carcass treatment. Data from successive levels at Pincevent and several nearby sites are used to examine such dynamic changes, to explore them in their geological and climatic context and to draw inferences for adaptive changes in social organization and behavior.

Enloe, James [238] see McCall, Grant S.

Ensor, Bradley (Eastern Michigan University) and Gabriel Tun Ayora (Universidad Autónoma de Yucatán)

[97] *El Bellote: A Large Late Classic Chontal Ceremonial-Administrative Center at Islas de Los Cerros, Tabasco, Mexico*

The site of El Bellote, Tabasco, Mexico is the elite ceremonial-administrative center for an extensive Late Classic Chontal coastal community at Islas de Los Cerros. Recent investigations at El Bellote have revealed the site to be the largest prehispanic coastal site in the Chontalpa region. The site comprises approximately 16 hectares, has over 43 mounds and platforms distributed in four major groups, has some brick and mortar vaulted architecture, and was largely built with re-used Formative period deposits. This paper describes El Bellote and discusses the regional significance of the site.

Epstein, Ethan, Emily J. Mueller (University of Wisconsin -Milwaukee) and Scott P. Thomas (Burns District Bureau of Land Management)

[120] *Chipped stone and Animal Bone at Mortar Riddle Site (35HA2627), Steens Mountain: Change over time*

Five-years of excavation at the Mortar Riddle (35HA2627) Site, Harney County, Oregon, provides additional information regarding human life during the last 1900 years BP in the upland Little Blitzen River valley of the Steens Mountain Range. Questions concerning human economic strategies within the upland riverine environment frame our research. Preliminary results, including chipped stone lithic and faunal analyses, suggest people varied their lithic tool kits, mobility patterns, site-use, and animal resource mix. We address key archaeological questions within the broader theoretical framework of the research design.

Eren, Metin (Southern Methodist University)

[143] *A Comparison of Lower Great Lakes and New England Environmental Change and Paleoindian Responses During the Younger Dryas*

Despite rapid climate change during the Younger Dryas (YD), it has been suggested that environmental changes in the Lower Great Lakes (LGL) were geographically variable and, in some locations, gradual. Thus, given the flexible cultural adaptations and high mobility of Paleoindians, there is no reason to expect dramatic cultural responses. A recent survey of the Paleoindian literature in the LGL suggests that this indeed was the case. This paper expands upon this analysis by examining the YD pollen and archaeological records of New England, and exploring whether or not Paleoindian cultural adaptations co-vary with climatic/environmental changes.

[95] *Discussant*

Eren, Metin I. [174] see Scanlan, Brian L.

Erickson, Clark (University of Pennsylvania) [141] Discussant

Eriksen, Berit (Moesgaard Museum)

[24] *In the mind of the maker - tangible evidence of thought in Early Bronze Age flint working*

During the Late Neolithic the art of flintknapping reached an exceptionally high level in Denmark. A few artisans produced one-of-a-kind masterpieces in flint. Their skill has never seen the like and has never been surpassed. Few centuries later the situation had changed and bronze tools were becoming increasingly important. Flintknapping specialists still were around, but they were craftsmen – not masters. They made everyday tools – not prestige objects. This research project employs experimental lithic technology to address these issues within the field of cognitive archaeology. The aim is a contextual schème opératoire analysis of Early Bronze Age flintworking.

Eriksson, Gunilla (Archaeological Research Laboratory) and Kerstin Lidén

[116] *Variation in use of marine resources during the Mesolithic and Neolithic in Sweden and the eastern Baltic - the stable isotope evidence*

Stable isotope analyses of both Mesolithic and Neolithic (Early and Mid-Holocene) humans demonstrate a rich diversity in resource utilization in Sweden and the East Baltic countries both before and after the introduction of agriculture. In contrast to the situation on the Atlantic coast, there is no sharp shift in diet at the onset of the Neolithic, but instead clear evidence of hunter-fisher-gatherer groups existing in parallel with farming groups. Although archaeological evidence of contact between groups have been interpreted in terms of farmers seasonally hunting seal, intra-individual stable isotope analyses rule out that explanation, since diet within each group is consistent throughout life.

Erlandson, Jon (University of Oregon)

[28] *A Viking Longhouse at Hrisbru, Iceland: Discovery and Dating*

In 2005, after several years work on church ruins nearby, we identified a large Viking Age longhouse on Kirkjuholl at Hrisbru in southwest Iceland. In this paper, I describe the discovery and dating of this longhouse. Tephrochronology, 14C dating of organic materials from the central hearth and floor, and diagnostic artifacts suggest that the longhouse was built and occupied primarily during the tenth century AD. Katla tephra dating to AD 1500 caps the house ruins, with several sparse midden layers found between the floor and the Katla ash. Dating these middens should bracket the age of the house occupation.

Erlandson, Jon [152] see *Willis, Lauren M.*

Erlandson, Jon M. [36] see *Braje, Todd J.*

Ernenwein, Eileen (Center for Advanced Spatial Technologies) and Lawrence Conyers (University of Denver)

[54] *Ground-penetrating Radar in the Lower Market, Petra, Jordan*

The city center of Petra, Jordan contains impressive exposed architecture, but much remains buried beyond the reach of traditional archaeological excavations. Geophysical surveys combined with targeted excavations allow the buried landscape to be revealed in considerable detail. The "Lower Market" was surveyed with GPR and what was initially described as an "open, empty space" was found to contain Roman period temples, water features and the remains of a formal garden. GPR analysis of the deepest and oldest known layers revealed the remains of a previously unappreciated early Nabataean settlement including simple stone dwellings situated along the banks of a wadi.

Ernenwein, Eileen [54] see *Koons, Michele L.*

Ertu, Füsun [276] see *Bogaard, Amy M.*

Espinosa, Manuel Eduardo [112] see *Dominguez, María R.*

Espinosa, Silvana Laura [118] see *Belardi, Juan Bautista*

Espiritu, Jason [33] see *Graves, Michael W.*

Estabrook, Richard [148] see *Pluckhahn, Thomas J.*

Estes, Mark (University of Nevada, Reno)

[42] *New Western Fluted and Great Basin Stemmed Series sites from Jakes Valley, Eastern Nevada, Central Great Basin*

In 2006 several new Western Fluted and Great Basin Stemmed Series sites were discovered in Jakes Valley, Nevada. Tools and samples of debitage were collected for metric, morphologic and comparative analysis and to test mobility patterns of Paleoindians in the Central Great Basin. X-Ray Fluorescence was utilized on obsidian artifacts as a proxy for distances traveled. Spatial analysis of these WF and GBSS sites show interesting patterns that likely coincide with Pleistocene lake levels in Jakes Valley. Lithic analysis reveals differences in technological organization, toolstone selection and settlement patterns between these traditions.

Estevão, Florbela [215] see *Hillier, Maria L.*

Estevez Escalera, Jordi [292] see *Briz, Ivan*

Estrada-Belli, Francisco (VU/Anthropology) and Nina Neivens de Estrada (Tulane University)

[203] *The earliest inhabitants of the Holmul region and the origins of Maya Civilization in the Preclassic period.*

Preliminary results of 2007 survey and excavations at Preclassic sites in the Holmul region combined with analysis of ceramic, settlement and paleo-ecological data are presented here to address issues relating to the peopling of the southern Maya Lowlands and the origins of centralized ritual and power institutions in the Preclassic period. A long period of local development in farming activities is recorded in local lake sediments which predates local ceramic and architectural traditions, among the earliest in the Maya Lowlands, as well as large-scale construction of ritual centers and inter-regional interactions in the Middle Preclassic period.

Estrada-Belli, Francisco [109] see *Wahl, David B.*; [97] see *Tomasic, John J.*; [203] see *Hurst, Heather*; [297] see *Tokovinine, Alexandre A.*

Etayo-Cadavid, Miguel [231] see *Jones, Kevin*; [231] see *Andrus, C. Fred T.*

Eva David, David

[303] *Projectile Points of the Early Holocene in the Northern Europe : Between Technical Tradition and Socio-Economic Necessity*

The study of the bone and antler projectile points, representing half of the Early Mesolithic manufactured items, shows differences in manufacture and tends in morphology. Compared with the rest of the industry and taking into account the used anatomical parts, these arms are merely significant enough to discuss an « industrial dynamism » in the Early Holocene. Patterns involved in their evolution seem to be related more to a « speciation » of the hunting gear that is probably linked to techno-economic necessities, than to an adaptation to the recorded environmental changes.

Evans, Adrian [303] see *Langer, Jessica L.*

Evans, Ashley

[50] *Engineering a Prehistoric Earthen Monument: a geotechnical investigation of the Mound House site*

Prehistoric earthen mounds are engineering marvels, given their multiple construction materials, multiple construction phases, and landscape visibility. The reported research combines geotechnical engineering and archaeological methods to evaluate the design, construction, and post-constructional evolution of the Mound House site in West-Central, Illinois. Re-analysis of two trenches revealed multiple soil surfaces during primary

construction, attributed to ritual activity at the site. Later phases of construction consisted of capping layers, relating to the monumentality of the mound. Particle size, thin section, optically stimulated luminescence, and geotechnical engineering samples were analyzed to evaluate these trends in mound engineering.

Evans, Jane [48] see *Hughes, Susan S.*; **[35]** see *Lee-Thorp, Julia A.*

Evans, Tim [261] see *Knapped, Carl*

Ewing, Robyn and John R. Welch (Simon Fraser University)

[300] Seeking Middle Ground: Repatriation's Roles in Negotiating New Relationships Among Indigenous Communities, Museums and Archaeologists

Museum repatriations of Indigenous cultural property are central to transformations unfolding at the interface of archaeology, descendant communities, and museums in North America. To understand crucial dynamics driving these changes I investigated repatriations outside NAGPRA's purview and those demonstrating exceptional circumstances. My comparison of repatriation processes and results at the Arizona State Museum and Calgary's Glenbow Museum illustrates significant institutional variation in repatriation approaches and consultations. Both museums, however, share similar proximate goals fostering productive dialogue. Repatriation is profoundly influencing institutional organization and mission, extending beyond legal mandates and revealing commitments to seek middle ground through good faith negotiations and extra-NAGPRA collaborations.

Eyre, Chureekamol (University of Pennsylvania)

[141] Discovering Land Use Variability and Ceramic Subregions: A Regional Approach to Site Survey in Central Thailand

The prevalent model of Metal Age agricultural economies as focused on wet-rice cultivation has not been fully supported by recent research. An intensive survey in central Thailand found 25 long-lived settlements dating between 2000 B.C. and A.D. 1000, most of which did not have access to land suitable for wet rice cultivation. How these enduring societies interacted with the local landscape is the subject of this paper. Metal age land use and settlement systems in central Thailand were quite variable, even in the iron age. The paper will argue that ceramic subregions provide clues for understanding these heterarchical landscape systems.

Ezzo, Joseph (SWCA Environmental Consultants)

[177] Managerial Elite, Community Leader, or Just a Good Ol' Boy: Metaphor and Identity of Burial 140 at Grasshopper Pueblo, Arizona

Burial 140 at Grasshopper Pueblo, the interment of a middle-age male, is one of the richest burials in the prehistoric Southwest. The number of associated grave goods is several standard deviations above the mean of the community, and includes identity markers for at least three community sodalities. Grasshopper was a community composed largely of immigrants and exhibited considerable diversity in cultural traditions; Burial 140 represents an individual who played a key role in the integrations of these diverse groups.

Fagan, John [188] see *Croes, Dale*; **[225]** see *Mack, Cheryl A.*

Fahrni, Grant [281] see *Sheehan, Michael S.*; **[104]** see *Hedquist, Saul L.*

Fairbairn, Andrew [276] see *Bogaard, Amy M.*

Faith, J. (George Washington University)

[303] Evidence for human contributions to the late Quaternary extinctions in South Africa
In southern Africa, five species of grazing ungulates went extinct between 12-9.5 Ka. Since the timing coincides with the onset of the present interglacial and a transition from open grasslands to more densely vegetated habitats, environmental change likely played a role in the extinctions. However, human predation pressure is also invoked since the extinct species had endured similar environmental fluctuations since the Middle Pleistocene. This study presents evidence from over 100 MSA and LSA archaeofaunal assemblages in

southern Africa indicating that increased human predation pressure depressed the abundances of large game on past landscapes, ultimately contributing to the extinctions.

Falcon, Tatiana (Instituto de Investigaciones Estéticas, UNAM), Diana Magaloni (Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México), Piero Baglioni (Consorzio per lo sviluppo dei Sistemi a Grande Interfase, dell'Università degli), Rodolico Giorgi (Consorzio per lo sviluppo dei Sistemi a Grande Interfase, dell'Università degli) and Sandra Zetina (Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México)

[74] *Early Classical Pigments in the Archaeological Site of Calakmul*

Material analysis of two murals from the archaeological site of Calakmul belonging to the early classic period open an interesting window to the development of artificial pigments in the Maya Area. 1.The study of blue colored samples from Substructure A5 of the North Acropolis by polarized microscopy and SEM reveal the presence of isolated indigo particles in the paligorskite substrate of the maya blue raising questions about the manufacture process. 2.The study of different skin tones of human depictions on Structure 1 of Chik Naab are made by combining earths with organic materials that have not been identified.

Falkenström, Per (Bohuslän County Museum)

[159] *The Greenstone Dimension - Skill in Connection to Axe Production in Central Bohuslän, Sweden*

Greenstone axes and related debris have been found on a site in the province of Bohuslän, western Sweden. The lithic production can further be distinguished with regard to skill. Flakes testify how skill could be acquired by applying variables such as weight and platform appearance. It is stated that certain production stages are related to individual learning-by-doing while other stages require instructions as part of an institutionalised apprenticeship. Since complete axes have been found next to waste we may define specific purposes behind the production. Production might further be related to degrees of specialisation and general demands in society.

Fang, Hui (Centre for East Asia Archaeology, Shandong University)

[226] *Pottery Production during the Shang and Zhou Periods in Shandong*

The texture, color and shape of pottery in Shandong during the Shang and Western Zhou periods represents the same general style as for contemporary pottery in the Central Plain area to the west. Pottery during the early Bronze Age period in Shandong developed from that western tradition rather than from the system of pottery production in prehistoric Shandong. There were two kinds of production, prestige wares for elites and family workshops for vessels used on a daily basis, with different implications for regional social organization.

Fang, Hui [24] see Cunnar, Geoffrey E.; **[226]** see Chen, Xuexiang; **[226]** see Niziolek, Lisa C.

Fanning, Patricia [154] see Holdaway, Simon J.

Fargher, Lane [14] see Blanton, Richard

Farias, Deisi (UNISUL) and Paulo DeBlasis (USP)

[177] *Old traditions and new kids on the block: enduring funerary patterns at the southern coast from Brazil*

From 2 kyBP on two important cultural traditions get in contact at the southern coast of Brazil: the long-lived Archaic sambaqui (shellmound) tradition (ca. 6 to 1,5 kyBP) and the agriculturalist newcomers, Je speaking people with distinctive ceramic technology and settlement pattern. A site dated around 1 kyBP, Galheta IV, discloses a very singular context of cultural fusion, in which new patterns of economic and social behavior seem to meet and cohabit with the old sambaqui funerary tradition related to the cult of the ancestors.

Farid, Shahina (Catalhoyuk Research Project), Lisa Yeomans (Catalhoyuk Research Project), Michael House (Catalhoyuk Research Project) and Roderick Regan (Catalhoyuk Research Project)

[276] *Dismantling and rebuilding the site of Çatalhöyük*

Single context excavation at Çatalhöyük captures single moments in time in the development of this highly complex and deeply stratified site. Houses built over houses, accumulating upward of 20m of continuous occupation, spans over 1,200 hundred years. Excavated deposits are divided into individual cultural components within a rigorous recording, sampling and quantification system, the diversity and intensity of the assemblage demonstrated by the variety of scholarships involved. The analyses are collated on an integrated database allowing complex cross platform searches to reconstruct the nuances of social life and the temporal and spatial growth of the settlement.

Farid, Shahina [276] see Russell, Nerissa; [276] see Meskell, Lynn

Fash, Barbara (Harvard University) and William Fash (Harvard University)

[257] *Chisel Power: Reflections on the Art of Architectural Sculpture Production and Distribution in the Copan Region*

The abundance and diversity of monumental art, architecture and hieroglyphic texts at sites outside the royal compound in the Copan Valley, and into the hinterlands, illuminate the timing and intent of regal investiture of authority in elites considered important to the stability of the kingdom. The consistent use of two imagery programs in architecture, and the linking of one of those programs with textual confirmation of membership in the royal court, reveal two strategies for the production and distribution of political power and its display. Recent research highlights the emphasis on the foreign origins of power at the valley site of Group 6N-1.

Fash, William (Harvard University) [180] Discussant; [257] see Fash, Barbara W.

Fashing, Maria

[281] *Recognizing Variability in Eighteenth-Century Plantation Diet through Pattern Analysis*

Archaeological interpretation of diet on eighteenth-century plantations has often relied on the recognition of patterns in faunal remains. This study examined the methodological value of pattern analysis for understanding differences in social status. Quantitative analysis was conducted on faunal remains from fourteen Virginia plantation sites, divided into assemblages associated with elite planters, middling farmers, and enslaved African-Americans. Examination of these assemblage patterns indicated variability in the diet of each status group between sites, which can be explained by the social and environmental factors on each plantation.

Fassbinder, Jorg (Bavarian State Dept. for Monuments and Sites), Karin Berghausen (Bavarian State Department of Monuments and Sites), Sebastian C. Sommer (Bavarian State Department of Monuments and Sites) and Tomasz Gorka (Bavarian State Department of Monuments and Sites)

[54] *Roman Frontiers: Geophysical prospecting of the Limes in Bavaria (Germany)*

Roman Limes with a length of 549 km is the largest archaeological site of Germany. More than 120 Roman forts, military camps and pickets as well as 900 watchtowers have been discovered. Since 1892 the "Reich's-Limes Kommission" has traced the remains of the path, walls and associated buildings associated with the Limes, but in many areas the exact location of associated archaeological remains are unknown. High definition magnetic and resistivity prospecting has been done that gives a broad aerial picture of the over state of preservation of this site.

Faught, Michael (Panamerican Consultants, Inc) [236] Discussant

Faulseit, Ronald (Tulane University) and Nezahualcoyotl Xiutecuhtli (Tulane University)

[171] *Late Classic Settlement and Transition at Dainzú-Macuilxóchitl, Oaxaca: Results from the Survey and Mapping Project at Cerro Danush*

In the Late Classic period (A.D. 500 – 800) in Oaxaca, Mexico, the Zapotec state and its urban center at Monte Albán reached their apogees and went into decline. During this time, several regional sites exhibit changing settlement patterns through the development of new residential and civic-ceremonial centers. At Dainzú-Macuilxóchitl, the summit of Cerro Danush was terraced to house a new settlement high above the valley floor. The proposed poster will display the results of the recent survey, surface collection, and mapping project at Cerro Danush designed to explore this terraced settlement by identifying and interpreting activities that took place there.

Fauman-Fichman, Ruth

[110] *Household use of medicinal and economically useful plants in Postclassic period Morelos, Mexico*

Functional households in the Mesoamerican past met their subsistence and economic needs both independently and in conjunction with other households. Ethnographic data from traditional households in modern Mexico supports this presumption. Ethnohistoric data from the early Colonial period provides detailed data and time depth to our understanding of the use of plants. Behaviors related to plant use for ritual, economic and medicinal purposes are expressed materially. Pollen analysis from household excavations and checkdam sediments provides direct evidence of behavior related to ritual, economic and medicinal plant use by provincial households in Postclassic Morelos, Mexico.

Faust, Katherine (University of California, Riverside)

[150] *A Reconsideration of the Huastec Maize Symbol*

One of the most ubiquitous emblems adorning Late Postclassic Huastec art is habitually recognized as a symbol for maize. A historical review of this identification demonstrates how interpretations are contingent upon the social contexts within which they are generated. A review of the “maize” motif exposes the broader range of meanings attributed to this symbol in pre-Columbian times. Consideration of the emblem in relation to imagery produced on a broader Mesoamerican scale permits more nuanced understandings of beliefs and ideologies referenced in Huastec art. It also sheds light on the cultural influences informing, and affected by, Huastec art and society.

Favier-Dubois, Cristian (CONICET-INCUAPA, Departamento De Arqueología) and Florencia Borella (CONICET-INCUAPA)

[292] *From intensive use to abandonment: exploring temporal tendencies in marine resources exploitation in Northern Patagonia since Mid Holocene times*

The use of marine resources by prehistoric North Patagonian hunter-gatherers was traditionally considered as marginal and sporadic. However, archaeological projects that we have started in San Matías Gulf (Río Negro, Argentina) uncovered plentiful evidence of coastal resource exploitation. Isotopic values obtained from human remains in this area suggest marine diets from about 3000 to 2000 yr BP. However, a lower representation of marine food was evidenced at about 1200 yr BP, and in historical times the coast had been abandoned. We are exploring the causes of these changes in subsistence patterns with studies of technology, bioarchaeology and paleoenvironmental reconstructions.

Fayek, Mostafa [145] see Brownlee, Kevin

Feathers, James (University of Washington)

[167] *Recent developments in luminescence dating of ceramics*

Luminescence dating on ceramics has traditionally used thermoluminescence (TL). More recently optically stimulated luminescence (OSL) has been applied to heated material. OSL has advantages in terms of precision and amount of material required. For fine-grained materials, using OSL in combination with infrared stimulated luminescence (IRSL) may also provide a way to circumvent anomalous fading, a problem for many ceramics that produces an age underestimation if not corrected. A fairly new development, pulsed OSL, may also help in this regard. These developments are explored in the dating of ceramics from eastern North America.

Feathers, James [11] see *Dunnell, Robert C.*

Fedick, Scott L. [144] see *Sorensen, Kathryn A*

Fedje, Daryl (Parks Canada), Duncan McLaren (University of Victoria), Marty Magne (Parks Canada) and Quentin Mackie (University of Victoria)

[275] *Function, Visibility, and Interpretation of Archaeological Assemblages at the Pleistocene-Holocene Transition in Haida Gwaii*

Investigations in the south of Haida Gwaii have identified several archaeological sites dating to the Pleistocene-Holocene transition. The earliest records come from karst caves and include small assemblages associated with bear hunting. These date from 10,600 to 10,000 14CBP. More substantial assemblages have been recovered from earliest Holocene age (9,500 – 9,000 14CBP) sites associated with ancient shorelines. Organic remains at some of these sites support a well-developed maritime adaptation. There are significant differences among these assemblages, likely relating to site function.

Fedje, Daryl [225] see *McLaren, Duncan S.; [172] see Steffen, Martina L.; [275] see Mackie, Quentin*

Fedorchenko, Olena (National University of Kyiv-Mohyla Academy)

[94] *Upper Paleolithic bison hunters: history of research*

Upper Paleolithic studies in southeastern Europe reach back more than 100 years. In this paper I describe the main chronological periods of the research history of the region near the Black Sea, concentrating on the analysis of the development of excavation methods and theoretical ideas. During the Upper Paleolithic this region was inhabited by bison hunters. Thus, this paper covers the history of research of Upper Paleolithic bison hunters. I explore the possibility that collaborative effort of southeast European and Plains Paleoindian bison hunters researches will provide insight for future enhancement of theoretical and methodological approaches to bison hunting groups.

Fenner, Jack (University of Wyoming)

[117] *Stable Isotope Analysis of Archaeological Prey Bonebeds*

Archaeological prey bonebeds containing multiple individuals of a single species provide statistically meaningful samples of animals from specific past periods, and therefore may help us to investigate aspects of hunting practices and environmental change. To maximize their research potential, it is important to know whether each bonebed contains the remains of a single mass kill or an accumulation of multiple kills of varying temporal or spatial populations. This paper describes a technique that uses carbon, oxygen and strontium stable isotope ratio variation within a bonebed to assess bonebed formation, and applies the technique to archaeological pronghorn bonebeds from Wyoming.

Fenner, Sr., Dale [10] see *Zedeno, Maria N.*

Ferg, Alan (Arizona State Museum) [260] *Discussant*

Ferguson, Jeffrey (University of Missouri), Michael Glascock (University of Missouri) and Timothy Perttula (Archaeological and Environmental Consultants, LLC)

[129] *Dividing up the Caddo Cultural Landscape: Small-Scale Analysis of a Large Ceramic INAA Database*

INAA of ceramics has the potential to reveal production locations, exchange, and other information about manufacturing processes, but it requires observable chemical differences. The Caddo ceramic database currently contains almost 1000 samples, yet the region is incredibly large and contains clays with remarkable chemical uniformity. Previous studies have combined all of the Caddo pottery into a single study, resulting in relatively non-distinct compositional groups and large numbers of unassigned samples. In this study we re-examine the Caddo database by dividing the region into 11 sub-regions and then examine internal sub-regional compositional groups and compare the groups between sub-

regions.

Ferguson, Jeffrey [304] see Beary, Mark O.; **[6]** see Coleman, Magen E

Ferguson, Robert (Parks Canada)

[71] Kejimkujik: Nineteenth-century Iconography in Mi'kmaw Rock Art

In the nineteenth century, Mi'kmaw artists incised over 400 images onto slate bedrock on the shores of Kejimkujik Lake in Nova Scotia. The Mi'kmaw of Atlantic Canada have retained a strong sense of cultural identity despite over 500 years of contact, depopulation and loss of lands. The petroglyphs of Kejimkujik, including both traditional and adaptive themes, speak to their endurance in a colonial society. This paper will illustrate the variety of images, discuss issues of interpretation and misinterpretation, and outline measures that have been taken to preserve the record of this rapidly disappearing legacy for future generations of Mi'kmaw.

Fernandez, María Soledad (Universidad de Tarapacá)

[244] Late Formative Architecture

The Taraco Peninsula shows some of the earliest Formative architecture with ceremonial precincts in the Titicaca Basin at a series of Middle Formative sites dotting the peninsula. The history of this development is addressed. The Taraco Peninsula Polity formed during the Late Formative, first coalescing at Kala Uyuni. This presentation describes this architectural sequence at Kala Uyni and then at Sonaje, where elaborate construction reflects a stepped slope terrace more like what was found at earlier Chiripa.

Fernandez Souza, Lilia (Universidad Autónoma de Yucatán)

[77] Ser o no ser: cultura material e identidad individual entre los mayas del Clásico

Estudios arqueológicos en el área maya de los últimos años, que involucran aspectos de género, vida doméstica y diferencias de status, han puesto sobre la mesa información sobre una variedad de grupos y personajes identificados a través de distintos medios materiales. En esta ponencia se explora y discute, usando el enfoque conjuntivo, la posibilidad de aproximarse a identidades individuales en el estudio de grupos domésticos en el área maya durante el período Clásico, evaluando tanto la pertinencia de las preguntas como las posibilidades de respuesta y las limitaciones que ofrecen los datos.

Ferraro, Joseph (Department of Anthropology), Briana Pobiner (Smithsonian Institution), Jim Oliver (Illinois State Museum), Laura Bishop (Liverpool John Moores University) and Tom Plummer (Queens College, CUNY and NYCEP)

[238] Late Pliocene zooarchaeology of Kanjera South, Kenya

Recent excavations at Kanjera South, southwestern Kenya, document a sizable late Pliocene ungulate faunal assemblage (NISP = 3000+, MNI = 40+) recovered in direct spatial association with several thousand Oldowan lithics. Taphonomic and zooarchaeological analyses clearly and concordantly suggest that hominins were the primary agent of assemblage formation. Large-bodied carnivores are implicated as secondary agents of assemblage modification. Despite clear evidence of early hominin access to remains, the assemblage is characterized by a relatively low frequency of cut-marked specimens. Implications for Oldowan hominin foraging ecology are discussed in light of prey characteristics, skeletal part analyses, and bone damage studies.

Ferring, Reid (University of North Texas), David Lordkipanidze (Georgian National Museum), Francesco Berna (Boston University) and Oriol Ohms (Universitat Autònoma de Barcelona)

[259] Geology and Formation Processes at Dmanisi in the Georgian Caucasus]

The site of Dmanisi, located in the southern Republic of Georgia, contains an exceptionally well preserved record of the earliest occupations of Eurasia by early Homo. Dated to just before and after the Olduvai-Matuyama reversal (1.78 Ma), Dmanisi has yielded a large number of hominin fossils with associated faunas and Mode I lithic assemblages. We describe the sequence of volcanoclastic sedimentation, periods of pedogenesis, erosion, and geomorphic change associated with piping, as factors in the formation history of this important locality.

Ferring, Reid [238] see Tappen, Martha

Ferris, Neal (University of Western Ontario)

[72] *Home is the Range: Domestic Space Within, and Without, Walls*

Around 1000 AD, agriculturalists in southwestern-most Ontario, archaeological leavers of the Younge Phase Western Basin Late Woodland Tradition, followed a mobile seasonal round and constructed a domestic that encompassed a mutable territory, multiple locales, and people residing within or without structures. 800 years later, Anishnabeg Ojibwa in the same region constructed a similar mobile domestic. Both groups maintained this mobility despite the example of more fixed-residence agriculturalists nearby (Early Ontario Iroquoians; Europeans and Delaware). This paper looks at the construction of domestic utilised by these two groups, one which extended beyond any fixed locale or standing structure, and shaped long term responses to change.

Fiedel, Stuart (Louis Berger Group)

[210] *Did a Bolide Impact Trigger the Younger Dryas and Wipe Out American Megafauna?*

Although proponents of the new impact theory cite intriguing physical evidence (nanodiamonds, spherules, etc.) they have yet to explain numerous incongruities, including: an asynchronous Antarctic cold reversal; extinctions prior to 13,000 cal BP in Alaska; persistence of megafauna in South America until 12,500 cal BP or later; survival of mammoths on Arctic islands, and ground sloths on Caribbean islands, into the mid-Holocene; and expansion of elk, bear, bison, and most importantly, fluted-point-makers (e.g., Folsom, Debert) after the supposed catastrophe.

[210] Chair

Field, Judith (University of Sydney)

[75] *Investigating the links between initial human colonization of Australia and the Late Pleistocene faunal extinctions*

Since the discovery in 1830 of the remains of now extinct fauna at Wellington Caves in southeastern Australia, there has been ongoing debate about the possible role of people in their disappearance. One prominent explanatory model is Blitzkrieg, initially developed for the North American context by Paul Martin, and redeveloped by Tim Flannery (1990) for the Australian context. This paper will discuss the evidence which is used to support the claims of a human mediated extinction process and extinction window, and explore the notion that factors other than human activities may have contributed to the megafauna's demise.

Field, Julie (Ohio State University)

[33] *Nu'alolo Kai Fauna: Final Analyses and Synthesis*

The site of Nu'alolo Kai, located on the remote Na Pali coastline of Kaua'i, preserved a diverse array of terrestrial and marine fauna within its cultural deposits. This report summarizes a suite of studies that have recently been completed on these materials, including quantitative studies of fish, mollusks, birds, small mammals, and turtles. These analyses provide a rich picture of prehistoric Hawaiian subsistence, and also allow for the examination of changing technologies and foraging strategies within an evolutionary perspective.

Field, Julie [33] see Graves, Michael W.; [156] see Oxley, Mark W.

Fields, Virginia (Los Angeles County Museum of Art)

[136] *Beyond Caves: Landscape and Cosmology*

Andrea Stone's seminal 1992 article launched deeper investigations into the relationship of landscape to the definition of cosmology. Her approach has become fundamental to how we understand the Precolumbian past and societies of the ancient Americas, extending to the present day.

Fifield, Terence (USDA Forest Service), E. James Dixon (Maxwell Museum of Anthropology) and Rosita F. Worl (Sealaska Heritage Institute)

[145] *Kuwóot yas.éin (His Spirit is Looking Out From the Cave) Once More*

During the summer of 2007, ten years after the beginning of archaeological excavations of a 10,000 year-old campsite (PET-408) on the northern coast of Prince of Wales Island in Southeast Alaska, the oldest human remains known from Alaska or Canada were transferred to the custody of local tribal governments. This event marks the completion of a project and the continuation of a remarkable partnership between tribes, researchers, and managers that has grown out of the discovery. Extensive analysis of the human remains and their context has led to fresh insights into early Holocene life on the northeast Pacific Coast.

Fik, Christine (The Glenn A. Black Laboratory of Archaeology and Indiana University)

[50] *Spatial Analysis of Ground Stone Tools from Unit A at Angel Mounds State Historic Site (12VG1)*

A large portion of a semi-subterranean house floor of an Angel Phase house was excavated over two field seasons in 2005 and 2006. The artifacts were recovered in with high attention to provenience and lend themselves to spatial interpretation. The information gained from closely examining the ground stone portion of the assemblage allows the function of the structure to be determined through tools that reflect everyday activities. Spatial relationships between the tools and subsets of their characteristics has proven fruitful when understanding the use of the structure and activities at Angel as a whole.

[9] see McGill, Dru

Filean, Erik (Dept. of Anthropology, University of Iowa)

[296] *A Case for Generalization: Romano-Batavian Herding Strategies and the Provisioning of Urban and Military Consumers*

Several lines of zooarchaeological evidence may be brought to bear on questions of generalized versus specialized herding strategies, including proportional taxonomic representation and mortality data. This paper applies taphonomically adjusted representation data and bone fusion and dental attrition mortality profiles to the question of specialization in the herding economy of the Roman-period Batavi of the Dutch Lower Rhineland as urban and military consumer populations emerged for the first time. Arguments for an intensification and perhaps specialization of cattle herding in a formerly generalized agropastoral economy are tested and found to be incompatible with the available zooarchaeological data.

Filipovic, Dragana [276] see Demirergi, G. Arzu; **[276]** see Russell, Nerissa

Filloy, Laura (Museo Nacional de Antropología), María Eugenia Gumí (Associate conservator, Moon Pyramid Project, Teotihuacan), Saburo Sugiyama (Aichi Prefectural University, Japan) and Yuki Watanabe (Associate conservator, Moon Pyramid Project, Teotihuacan)

[74] *Study of an anthropomorphic serpentine and wood mosaic from Burial 6, Pyramid of the Moon, Teotihuacan. Manufacture techniques, raw materials and Restoration*

During the excavations carried out inside the Pyramid of the Moon, in the old city of Teotihuacan, a unique serpentine and wood mosaic was discovered within the well-known Burial 6. The restoration and the detailed study of the sculpture allowed us, on the one hand, to identify a wide range of prestige materials used, and on the other, to conjecture the technical sequence necessary to produce the mosaic. In addition, different analyses (optic microscopy, x-rays diffraction, MEB and micro chemical tests) allowed identification of minerals and the wood species used for the anthropomorphic mosaic. Main results will be discussed.

Finke, Hannes [91] see Steele, Teresa E.

Finkelstein, Sarah (University of Toronto, Department of Geography) and Julie Ross (Department of Culture, Language, Elders and Youth, Government of Nunavut)
[17] *Late Holocene paleoclimatic records from the eastern Canadian Arctic: archaeological implications*

High-resolution lake sediment records from the eastern Canadian Arctic were synthesized to provide regional reconstructions of paleoclimatic changes for the past two millennia. Records from Baffin Island and Melville and Boothia Peninsulas provide evidence for long-term cooling since 2000 years ago; lowest temperatures occur between 600 and 150 years ago (Little Ice Age) following several centuries of relatively warmer temperatures. Local impacts of these climatic changes on food web structure and biological production may have influenced Thule settlement in this region. Combining paleoclimatic and archaeological data help to quantify the relative importance of environmental factors in human social change.

Finlay, Nyree (University of Glasgow)

[159] *Stonecraft, Sociability and Skill in Prehistoric Scotland*

In Scotland an array of distinctive lithic raw materials were exploited by prehistoric knappers including pebble flint, various types of quartz and quartzite, agate and volcanic glass – pitchstone. Many are localised in occurrence and considered poor in quality. Discussion within the archaeological literature has often failed to fully appreciate the variability within particular materials and has focused on sourcing. This paper will review the analytical challenges created by such a diverse range of stone use and re-evaluate existing interpretations that have tended to ignore skill and social issues as a salient factors in assemblage variation.

[159] *Co-Organizer*

Finley, Judson [19] see Scheiber, Laura L.

Finney, Bruce [289] see Maschner, Herbert; [194] see Jordan, James; [17] see Misarti, Nicole

Finucane, Brian (Yale University)

[274] *Maize and Sociopolitical Complexity in the Ayacucho Valley, Peru*

Using a large suite of stable isotope values from directly dated human remains recovered from the sites of Pikimachay, Rosamachay, Trigopampa, Conchopata, and Huari it will be argued that maize was the mainstay of the subsistence economy of Peru's Ayacucho Valley from at least ca. 800 BC and that maize agriculture was the economic foundation of the Wari polity, the first urban, state society of the Andean sierra. In addition isotopic evidence for the use of fertilizer and intensive agriculture is considered and evaluated with respect to sociopolitical changes in the region.

Fischer, Christian [157] see Kakoulli, Ioanna

Fischetti, Jordan, David G. Bailey (Hamilton College) and George T. Jones (Hamilton College)

[214] *The Effects of Reduction and Sampling in Source Provenance Analyses of Paleoarchaic Lithic Artifacts*

Stone tool provenance analyses in the Great Basin have traditionally focused on formal tools despite recognition that these tools probably over-represent more distant, higher quality sources. A recently published study of obsidian artifacts in the western Great Basin demonstrates with three case studies that the provenance signals of formal tools and small late-stage reduction flakes often differ from those of large flakes. The model was tested in the more complex lithic terrain of the central Great Basin by comparing provenance signals of formal tools and productiondebitage from several Paleoarchaic sites in the region.

Fisher, Christopher (Colorado State University)

[301] *Environments in Flux: The Impact of Conquest on the Landscapes of Mesoamerica*
The conquest of the Americas initiated profound landscape change in Mesoamerica. Here I

use evidence from throughout West Mexico to explore landscape issues related to demography, abandonment, and climatic flux. I then explore the implications of this record for both landscape reconstruction and modern conservation. Finally, I argue that environmental change is a critical component of conquest.

Fisher, Christopher [206] see *Galaty, Michael L.; [97] see Elliott, Michelle*

Fisher, Erich (University of Florida)

[95] *A Preliminary Analysis of Late Pleistocene (OIS 3 and 4) Lithic Technological Changes at Moche Borago Rockshelter, Ethiopia using Computer-Assisted Morphometry*
The African Late Pleistocene documents distinct changes in how stone tools were made and used. Many of these changes are classified within the transition from Mode 3 to Mode 4 lithic technologies, though within-Mode change exists also. At Moche Borago rockshelter, in south-central Ethiopia, a two-meter sequence spanning the Holocene and Late Pleistocene provides one of the longest archaeological sequences within Northeast Africa. Using a computer-assisted morphometrics analysis of the lithic debitage from Moche Borago, this paper examines the timing and nature of technological changes evident from the debitage and relates these changes to other aspects of the lithic assemblage.

Fisher, Lynn (Univ of Illinois Springfield), Corina Knipper (Universität Tübingen), Rainer Schreg (Römisch-Germanisches Zentralmuseum Mainz) and Susan Harris (University of California Santa Barbara)

[215] *Neolithic Chert Extraction on the Swabian Alb (Germany): Excavations at the Asch-Borgerhau Site*
Chert from the Swabian Alb plateau in southern Germany was a regionally important raw material for Early and Middle Neolithic stone tool production, but prehistoric extraction sites have not been investigated. 2007 fieldwork at the Asch-Borgerhau quarry site documented visible surface depressions, pit features and dense lithic workshop debris in an area with abundant natural chert. This research is part of a long-term project that combines archaeological and geomagnetic survey, geological investigations, and excavation to explore Neolithic chert extraction, early stage processing, tool production, and transport at the quarry site and several nearby upland settlements.

Fisher, Victor (Towson University)

[255] *Beyond the Pail: Appreciation of the Aesthetics of Ancestral Puebloan Architecture*
The literature on ancestral Puebloan architecture reflects the reluctance of most traditional archaeologists to comment about aesthetic qualities of the structures on which they worked. Landscape architects, on the other hand, have made aesthetic appraisals at the level of attributing to the original builders grand visions of their contributions to landscape architecture.

Fisher, Jr., John [221] see *Neeley, Michael*

Fitzhugh, Ben (University of Washington)

[270] *Networking and isolation in the North Pacific: The role of information in the Kuril and Aleutian Archipelagos*

A model is developed concerning forager investments in information networks under ecological and demographic stability/vulnerability and relative isolation. Extensive networks should be more important in volatile environments. By contrast, costs/risks of voyaging would discourage networking where ecological and demographic vulnerability is low, allowing for greater isolation. This model is used to explore the cultural continuities and discontinuities of the Aleutian and Kuril islands-- ideal settings for comparative study of small scale, insular foraging groups, social networking, and cultural transmission. This paper predicts changing scales of style horizons, distribution of raw materials, and geochemical signatures of mobility.

[194] *Discussant*

Flad, Rowan (Harvard University) and Pochan Chen (National Taiwan University)

[226] *Interregional Interaction in Central China*

Regional landscapes can be understood as the intersection of multiple conceptual topographies of social activity and interregional interaction. This perspective moves beyond a focus political cores, which relegates surrounding areas to peripheral status the relevance of which are defined entirely in terms of interactions with these core areas. We elaborate this position with a case study of macro-regional interaction in Central China, modern Sichuan, Chongqing, Hubei and Hunan. By examining the mosaic of overlapping social topographies in this region, we highlight politically peripheral regions as critical in the development of specialized production and the emergence of local identities.

Flaming, Raymond (University of Washington)

[168] *Geospatial Analysis & Landscape Archaeology Survey in Corsica*

Since 2005, a multi-national team from the universities of Washington (USA), Winchester (UK), and Pascal Paoli (Corsica) have undertaken the first large-scale systematic archaeological survey on the island of Corsica. In 2007, the team surveyed over 1 million square meters of land, documenting approximately 200 archaeologically interesting areas. Drawing on this work, this poster explores some methods of implementing digital landscape archaeology techniques in survey, especially focusing on incorporating simulation, GIS, geoarchaeology, morphometric, and landscape analyses in planning and executing the survey (as opposed to merely in final analysis).

Fleisher, Jeffrey (Rice University)

[76] *The Politics of Feasting on the Eastern African Coast, AD 700-1500*

Historically, the Swahili have performed feasts where they negotiated and contested social power. Feasts draw on tradition and practice, but create the space for, and conditions of, imbalance and social debt. I use this historical frame to examine feasting in the more distant Swahili past, in particular looking at how feasts can domesticate distant power—the power drawn from objects and practices from elsewhere. By charting changing assemblages of imported and local ceramics, I examine changes in feasting patterns and the way feasts provided a social context within which local and distant power could be forged and translated into authority.

[141] *Discussant*

Fleming, Kimberly [294] see *Hanson, Diane K.*

Flores, Luis, Mark Aldenderfer (University of Arizona) and Silvia Roman

[58] *El Origen de Qochas en la Cuenca del Ramis y su Repercusión en el Surgimiento de la Complejidad Social*

Los primeros resultados de nuestra investigación en buena parte de la Cuenca del Ramis ha evidenciado la existencia y relaciones temporales entre los sitios del Formativo Tardío (650 A.C. - 400 D.C.) y la tecnología de almacenes de agua que localmente se conocen como qochas, por lo tanto planteamos en este trabajo que la aparición de las qochas estuvo asociado al desarrollo del primer Estado en el altiplano con la cultura Pukara, donde esta tecnología agrícola fue una respuesta a la necesidad de una población sedentaria significativa y compleja con demandas políticas claras.

Flores-Fernandez, Carola (UCSB), Carlos Ocampo (Wulaia Foundation, Chile) and Pilar Rivas (Wulaia Foundation, Chile)

[292] *Strategies of prehistory intertidal gathering. Coastal hunter-gatherers of Reloncaví Sound, Chile.*

Data of this paper is derived from the analysis of five shell midden sites on the coast of the Reloncaví Sound, northern Patagonia Channel. Dates from 5.576 B.P. to 1.825 B.P. obtained from these five archaeological sites allow us to examine intertidal harvesting behaviors from the early times of coastal adaptation on this area to latter times when pottery appears in the record. Our results indicate that the presence of different intertidal harvesting strategies could be associated to the use of pottery. These changes might be also related to shifts in settlement patterns and social dynamics on the coast.

Flores-Fernandez, Carola Francisca [152] see *Broitman, Bernardo*

Flowers, Heather (University of Minnesota-Twin Cities)

[48] *Iconography and Identity in Early Medieval England: An Analysis of Personal Adornment in Anglo-Saxon Graves*

Brooches are common artifacts found in Anglo-Saxon graves. They are often decorated with an intricate animal style that suggests its use as a ritualized, restricted text. Specific motifs may have been confined to specific classes, kin groups, genders, and ages. Through the contextual study of these ornaments, it may be possible to understand more fully the social structures of early medieval societies and the ways in which brooches were used to visually express social identity. Presented is an analysis of personal ornaments and stylistic motifs from three Anglo-Saxon cemeteries, including Empingham II, Leicestershire, Butler's Field, Gloucestershire, and Great Chesterford, Essex.

Foias, Antonia [233] see Moriarty, Matthew D.

Foit, Franklin [105] see Mierendorf, Robert R.

Folan, William (Centro des Invest Hist y Soc), Armando Anaya (Universidad Autonoma de Campeche), Edwin Barnes (University of California, San Diego), Hubert Robichaux (University of Texas, San Antonio) and Raymundo Gonzalez (Universidad Autonoma de Campeche)

[253] *Oxpemul, Campeche, Mexico: A Major Civic-Ceremonial Center on the Northern Peten and Rio Bec Frontier*

The Centro de Investigaciones Historicas y Sociales of the Universidad Autónoma de Campeche mapped 9 km² of the area surrounding Oxpemul's two nuclei. Oxpemul is a 5 ha. defensive, civic/ceremonial center forming a royal court, with a palace an E Group, a ball court and two temples similar to the settlement pattern of nearby Calakmul. Twenty-one stelae, and 25 altars have been recorded. All glyphs are under analysis as are pigments on 16 of these monuments plus the identification of ceramics and major flora. The spatial analysis of Oxpemul confirms its defensive role.

Follensbee, Billie (Missouri State University)

[316] *Fiber Technology and Weaving at Formative Period Chalcatzingo*

While considerable research has been conducted on the importance of textiles in later Mesoamerica, little study has been done on the importance of fiber technology among Formative Period cultures. In part, this is because direct evidence of early textiles is limited, consisting only of fabric-impressed clay and fragments of cloth and cordage. However, depictions of textiles in Formative Period sculpture at sites like Chalcatzingo provide additional material for analysis, and further evidence can be found in the re-examination of artifacts recovered from this site. Analysis of these data together indicate that textiles held considerable importance for these Formative Period cultures.

Fonseca, Joao (MUSEU DE ARQUEOLOGIA E ETNOLOGIA MAE-USP)

[31] *Nimuendajú Reviewed: Archaeology of the Ancient Brazilian Guyana*

This research analyzes and tests a hypothesis made by Meggers & Evans about a specific archaeological site known as Stone Alignments, situated at the Estate of Amapá-Brazil. The main idea is the possibility of a pattern distribution in the landscape, where the variables are the proximity to water resource, arrangement on highest hills and located in open areas. The first researches were produced by Nimuendajú in 1923, which left a valorous field's material such as photographs and sketches on more than ten sites. An academic research was built to verify both old and new date about these Stone Alignments.

Fontes, Lisa (Hamilton College), Charlotte Beck (Hamilton College), George T. Jones (Hamilton College) and Rachel Horowitz (Hamilton College)

[214] *Paleoarchaic Mobility Patterns: Lithic Source Provenance Analysis of Artifacts from Three Valleys in the Central Great Basin*

In their extensive movements across the central Great Basin, Paleoarchaic peoples obtained a variety of lithic source materials, which they exploited for tool manufacture. To date, obsidian source analysis has allowed the reconstruction of a large-scale conveyance

zone, encompassing over 400 km from north to south. We analyzed newly obtained obsidian and fine-grained volcanic artifacts from three valleys in eastern Nevada using x-ray fluorescence spectrometry (XRF). The results were used to refine existing Paleoarchaic mobility patterns and to expand our knowledge of these in the southern part of the region.

Ford, Anabel (UCSB)

[282] *Coloring the Past: The El Pilar Maya Forest Garden*

The ancient Maya have been exalted for their architectural and artistic grandeur. Keen observers of natural phenomena, they studied the heavens, making accurate predictions with precise mathematics. Yet these same Maya have been accused of destroying their own environment. Today, more than 90% of the forest species are useful and traditional Maya are superb gardeners. These are the enduring untold legacies of the Maya. At El Pilar, we have linked the contemporary farming strategies to the management of the protected area of the El Pilar Archaeological Reserve for Maya Flora and Fauna. These will be discussed.

[267] *see Kamp, Kathryn*

Ford, Ben (Texas A&M University)

[290] *Practice, Material Culture, and Landscape*

Material culture, which includes landscapes, is the fundamental residue of everyday life and forms the foundation of archaeological practice theory. Landscape analysis can therefore follow the traditional practice approach of investigating the actions of individuals through the artifacts and features they left behind. However, it can also explore the habitus of a group, treating sites in much the same way that occupation areas are viewed in practice theory, to investigate daily practices at a larger scale. This approach is applied to a landscape study of the Lake Ontario shoreline to investigate the approach's archaeological usefulness.

Ford, Ben [163] *see Halligan, Jessi J.*

Foreman, Lindsay (The University of Western Ontario in London, Ontario)

[207] *Faunal Insights into the Subsistence and Settlement Strategies of Ontario's Western Basin Tradition (A.D. 500 to 1600)*

This paper uses the results from the recent analysis of four Western Basin Tradition (WB) faunal assemblages to document changes in the subsistence and settlement patterns of these groups that are associated with the adoption of maize horticulture. It will examine temporal changes in: 1) the overall mobility of WB groups, 2) their scheduling of faunal procurement activities, and 3) microenvironment exploitation. These data will be used to assess the validity of current interpretations of late prehistoric ethnic affiliations in the lower Great Lakes region, which hinge on interpretations of subsistence and settlement patterns.

Forgey, Kathleen (University of Illinois at Chicago) and Sloan Williams (University of Illinois at Chicago)

[177] *Variation and Transformation of Human Trophy Heads from Perú's South Coast*

Numerous hypotheses have been offered to explain the function of Nasca trophy heads (~AD 1-800) found on Perú's south coast: as fertility symbols, warfare trophies, cult objects, and sacrificial objects. Our expanded study of trophy heads from the Nazca, Acarí and Ica valleys spans the Early Horizon, Early Intermediate Period and Middle Horizons (N=37) and indicates temporal shifts in demographic composition and variation in preparation methods. The temporal shifts previously observed in iconography and now identified in demographic composition suggest changing ideology, while the preparation variation we noted may indicate temporal, geographic or functional differences in trophy head use.

Formosa, Sue [52] *see Lenert, Michael P.*

Formosa, Susan (Views), Dana Lepofsky (Simon Fraser University), Dave Schaepe (University of British Columbia / Sto:lo Research & Resource Management Centre) and Michael Blake (University of British Columbia)

[52] *Changing Patterns of Pithouse Village Layout in the Fraser Valley*

Detailed maps of ten archaeological sites along the Fraser and Harrison Rivers (70 to 150 km east of Vancouver) with well-preserved pithouse depressions show that the location, size, and layout of villages varied a great deal over the past 2500. Comparisons of the arrangements of houseplots among the mapped villages show that there are two main patterns, linear and irregular, and these may be related to the presence or absence of above ground plank houses, the age of the occupation, and the site's location along the Fraser River (and thus, social affiliation). These data help provide a new avenue for exploring changing social identities of Coast Salish communities prior to the 1800s.

Forne, Melanie [257] see *Demarest, Arthur A.*

Forsman, Leonard [122] see *Trudel, Stephanie E.*

Fosberg, Stephen [125] see *Schlanger, Sarah H.*

Foster, David [289] see *Chilton, Elizabeth*

Foster, John [258] see *Conrad, Geoffrey W.*

Foster, Michael and Douglas Mitchell (SWCA Environmental Consultants)

[273] *The Puerto Peñasco Archaeological Reconnaissance Project*

A decade long reconnaissance survey of the northeastern coast of the Gulf of California has resulted in the identification of over 50 shell midden sites. Over this time, our understanding of the complexity of these middens and their role in local and regional subsistence and economic patterns, the focus of this discussion, has evolved. The culmination of this project has been the recognition of a widespread and extended Archaic period use of the area in addition to the long recognized ceramic period use of the area by the Hohokam of central and southern Arizona.

Foster, Michael [273] see *Mitchell, Douglas R.*

Foster, Thomas (Northern Kentucky University), Lisa Olsen (Oak Ridge National Laboratories) and Virginia Dale (Oak Ridge National Laboratories)

[289] *Using Archaeological and Historical Data for Biodiversity Management*

Because of the long-term perspective of archaeology and historical ecology, these disciplines have unique advantages in the study of ecological processes. We argue that modern environmental management policy should use long term data to assess current effects and to implement sustainable practices. We demonstrate a formal approach to identifying ecological indicators of change and metrics for use in modern environmental management. Using ecological indicators in concert with archaeological data, we discuss cases where environmental management is being successfully informed by historical ecology.

Fournier, Patricia (Escuela Nacional de Antropología e Historia) and Thomas H. Charlton (University of Iowa)

[301] *From Colony to Nation: Material culture, status, and deconstruction of identity in 19th century Mexico*

Considering that material culture constitutes social relations and meaning making, this paper scrutinizes the role of material symbols chosen by the bourgeois class in nineteenth century Mexico. To show how possession of goods is embodied in class habitus, we explore the role of European wares to display the identity and position their bearers. Through the comparison of typological variability in urban and rural settlements located in central Mexico, we construct a model to illustrate that even with the variation of contexts, there were common lifestyles and practices among high and middle class individuals in different settings.

Fournier, Patricia [150] see *Chavez, Laura E.*; **[301]** see *Charlton, Thomas H.*

Fowler, William (Vanderbilt University)

[59] *The Northwestern Frontier of the Greater Chibchan Area*

For decades scholars have examined the area encompassed by El Salvador, western Honduras, and western Nicaragua as the southeastern periphery of Mesoamerica. But few have given any thought to this multicultural region as the northwestern frontier of the Greater Chibchan or Isthmo-Colombian area. Such a shift in perspective could help to illuminate patterns of interaction along the Chibchan/Mesoamerican frontier. This paper examines some of the cultural similarities and differences between the Greater Chibchan area and its northwestern periphery in terms of demography, social stratification, craft specialization, exchange, warfare, chiefly power, and ideology.

[138] *Chair*

Fowler, William [233] see Sampeck, Kathryn E.

Fowles, Severin (Barnard College)

[228] *Katsinalessness, or Why the Northern Tiwa Didn't Make Pictures of Spirits*

The regional aspect of any social phenomenon—the sense in which it can be encircled on a map to indicate the limits of its distribution—is defined as much by a phenomenon's presence on one side of a line as its absence on the other side. This paper reconsiders the regional aspect of katsina iconography by focusing on one of the few Pueblo areas outside its distribution. Unlike their neighbors, the Northern Tiwa chose not to explicitly depict katsina spirits during the Pueblo IV period. The reasons they didn't, I argue, may tell us much about the reasons others did.

Fowles, Severin [290] see Wilkinson, Darryl A.

Fox, Georgia (California State University, Chico)

[146] *Preliminary Archaeological Investigations at Betty's Hope, Antigua: the Plantation as System, Socioenvironmental Change in the British Caribbean and Atlantic World*

This paper focuses on recent archaeological investigations at Betty's Hope, Antigua, a sugar plantation which operated from 1651 to 1944. The objectives of my research are to link two theoretical approaches. The first is to gain a fuller understanding of the relationship between the World Systems paradigm and the impact of agriculture and landuse in British colonization. The second draws on recent studies in landscape archaeology as they pertain to landscape as a constructed system. Betty's Hope serves as an ideal laboratory for this research at a local level, within the Caribbean region, and, beyond in the greater Atlantic world.

Fox, Jake (Radford University)

[88] *Diachronic Intra- and Inter-Site Spatial Variability in Early Village Settlements on the Bolivian Altiplano*

Analysis of features and artifacts recovered from Formative Period settlements of the Wankarani Complex reveal differences in community organization and function that changed over the course of nearly two millennia. This paper explores these patterns and draws implications for our understanding of socio-economic organization in one of the earliest agro-pastoral populations in the southern Andes.

Fox, Michael, Brad Carroll (Simon Fraser University), Cameron Smith (Portland State University) and Suzanne Villeneuve (Simon Fraser University)

[133] *Examining causes of small structure variation at Keatley Creek through lithic analysis*

The recent program of research at Keatley Creek has focused on understanding the causes of variation in small housepits. Currently, groups of small structures on the South and Northeast Terraces of the site are hypothesized to have been used for similar specialized, possibly ritual, activity. Results on analysis of lithic assemblages from the South Terrace structures, compared with Northeast Terrace assemblages and other small potentially domestic structures from the core of the site are reported on. Potential causes of assemblage differences between the South and Northeast Terrace structures are discussed.

Foxe, David

[221] *Exploring Investment in Ceramic Technology among Hunter-Gatherers: A Preliminary Analysis of Pottery from Two Late Prehistoric Phases on the Central Gulf Coast of Texas.* Late Prehistoric (ca. A.D. 1200 – 1700) Rockport and Toyah phase hunter-gatherers, on the gulf coastal plain of Texas, incorporated pottery into their subsistence toolkits. Comparison of ceramic assemblages from sites representing these two distinct phases is undertaken in order to discern differences in investment during the production process. Through analysis of macroscopic and microscopic attributes that are proxy measures for investment, it will be determined whether the phase exhibiting the greater degree of residential mobility produced pottery forms of a more expedient nature.

Frachetti, Michael (Washington University)

[190] *Nomads and the long duree - durability and variation in nomadic landscapes* Recent excavations in Eastern Kazakhstan illustrate that nomadic societies leave durable records of habitation that span considerably long periods of time, in spite of regular patterns of mobility. Thus, for these nomadic societies, a new concept of social and historical continuity must be applied if we are to understand their role in the formation of local and regional social structures and their impact on political and economic change through time. This paper illustrates these issues with material from the site of Begash and its surrounding landscape, to discuss the long term process of nomadism in Eurasia.

Frahm, Ellery (University of Minnesota), Marianna Nikolaidou (Cotsen Institute of Archaeology, UCLA) and Marilyn Kelly-Buccellati (California State University)

[168] *Investigating Ceramic Technology at Urkesh (Tell Mozan, Syria): Using Image Analysis Software to Correlate Sherd Scans in the Field and X-ray Element Maps in the Lab*

Our research involves a novel combination of techniques to examine the ceramic tradition at the Hurrian city Urkesh (Tell Mozan, Syria). Traditional ceramic petrography involves polishing slices of sherds and identifying constituents using a polarizing microscope. Preparing and observing large numbers of samples, though, is expensive and time-consuming. Our approach uses a flatbed scanner in the field to collect high-resolution images of cut sherds. Select sherds were also analyzed using X-ray element mapping. Image analysis software correlated the image sets. The result is a promising way to analyze numerous sherds, crucial for understanding chronological and stylistic variations.

Frame, Lesley [283] Chair**Frame, Mary**

[98] *The Silhouette Style: The "Other" Block Color Style in the Paracas Necropolis Embroideries*

Jane Dwyer's terms for the major styles in the embroideries from the Paracas Necropolis – the "Linear" and the "Block Color" style – are in need of re-examination, if a clearer vision of the politics and dynamic that resulted in the multiple styles of embroideries at the Necropolis is to emerge. In this paper, I will look at a sub-style within Dwyer's Block Color style – one that I am calling the "Silhouette" style - that is characterized by certain graphic, iconographic, patterning, and technical attributes.

France, Elizabeth

[198] *A Shell Mosaic: Fitting together the pieces of worked shell production and distribution at the Postclassic Mayan site of Mayapan, Mexico*

An exploration of the shell artifacts recovered during The Economic Foundations of Mayapan Project, 2001-2004. This analysis includes distribution patterns of potential workshop areas, specific species and number of worked shell artifacts, and potential production methods employed at the site. Analysis includes; more shell recovered in commoner household contexts and fewer stone tools recovered in shell production areas. By exploring the location and production patterns of worked shell in the Mayapan area, a new tile in our mosaic of understanding can be gained for a clearer picture of the cultural and economic use of seashells in the Mayan world.

Francisco, Liz and Julie Bell (Mesa Verde National Park)

[46] *An Analysis of Thirteenth Century Residential Sites in the Fewkes Canyon Community of Mesa Verde National Park*

Large community boundaries in Mesa Verde National Park have been defined by identifying residential settlement clusters that contain public architecture designed for communal use, such as great houses, great kivas, and reservoir systems. Fire Temple, a site in Fewkes Canyon contains a rare great kiva that sets it apart from most Pueblo III sites and probably served as a centerpiece for adjacent communities. This poster will attempt to examine the relationship between alcove sites located in Fewkes Canyon and nearby Cliff Palace, which may have served as the community center for this group of Pueblo III households.

Francisco, Liz [2] see Young, JoAnne

Frank, Caroline (Brown University, Dept. of History)

[68] *Fit for a King: Chinese Pottery in the Northern Plantations*

Artifacts of Chinese culture found in early British and Dutch colonies are a vehicle into a historical problem. Were American settlers who decorated their mantels with porcelain Buddhas and blue-and-white bowls peripheral to the competitive pursuit of Asian wealth by European states? European economic expansion was fueled by competition for Asian commodities. But the planting of settlers in New England and the mid-Atlantic remain outside historiographical discussions of Europe's East India enterprises. Acknowledging the presence of refined Chinese commodities leads us to question historical narratives portraying colonial settlements as economically under-developed outposts on the edges of global commerce.

Franklin, Elaine (Center for Math/Science Education)

[293] *Dinosaurs, Treasure, and Bones: The Quest for Archaeological Literacy*

Despite a dramatic increase in archaeology education initiatives over the last two decades, many common misconceptions persist and archaeology is still often viewed as a novel or esoteric discipline. This paper addresses the problem by calling for a focused and comprehensive effort to identify the essential elements of archaeological literacy and make a large scale commitment to advance public knowledge around these understandings. It is a call to do for archaeology what the AAAS did for science with Project 2061, which has earned the reputation as being the single most visible attempt at science education reform in American history.

[293] Chair

Franklin, Jay (East Tennessee State University), Jessica Godsey (East Tennessee State University), Lucinda Langston (East Tennessee State University) and Maureen Hays (College of Charleston)

[258] *A Diachronic Perspective on Lithic Technology and Function at Eagle Drink Bluff Shelter, Upper Cumberland Plateau, Tennessee*

Eagle Drink Bluff Shelter is a small rock shelter in the karstic highlands of the Upper Cumberland Plateau of Tennessee. Three years of excavations have revealed components ranging from at least the Middle Archaic through the late Early Woodland. This paper explores lithic reduction strategies and stone tool function at the site over the course of several thousand years.

Franklin, Jay [106] see Kortum, Richard D.

Freas, Jessica

[164] *Discovering Archaeology through the Eyes of a Middle School Student*

This project is about designing an educational tool for upper elementary and middle school students, which can be used to develop student interest and understanding of ancient civilizations. This lesson plan will use archaeology to provide a common connection to the study of the Mediterranean and Mesoamerican worlds. It will illustrate archaeology through "active learning" projects, which will illustrate key concepts from two active archaeological

projects allowing students to become participants in the archaeological experience.

Frederick, Charles, Fernando Sanchez (Instituto Nacional de Antropologia e Historia) and Luis Morett (Universidad Autonoma de Chapingo)

[158] *Evolution of an irrigation canal in the Yautepec Valley of Morelos, Mexico*

This paper traces the changes in a trunk irrigation canal that has been in apparent continuous use from its inception in the Terminal Formative through today. The system began with summer season floodwater irrigation, and shifted to perennial irrigation in the Epiclassic, after which the canals became travertine encrusted. The nature of water use and manipulation changed through time as indicated by size of canals and the trajectory of canal size is counterintuitive, with cross-sectional area decreasing as irrigated area increases. Finally, radiocarbon dates on organic matter occluded in canal travertine were found to be unreliable indicators of canal age.

Frederick, Gay [230] see *McKechnie, Iain*; **[36]** see *Crockford, Susan J.*

Frederick, Wendy

[106] *Ainu archaeology*

This paper discusses the Ainu in the context of identity and its role in archaeology. Analyzing how social inequality in societies causes amassing prestige goods and giving them away. I will explore political economy and archaeology and perspectives on exchange and production.

Freeburg, Adam [220] see *Anderson, Shelby L. R.*

Freeman, Andrea (University of Calgary)

[259] *Application of Micromorphological and Chemical Techniques on Buried Prehistoric Soils in Canada*

Buried soils at archaeological sites are often thin and discontinuous, exhibiting few of the visible characteristics typically used to identify the presence of past soil formation. Micromorphological and chemical techniques are a key factor in the identification of soil forming processes. A variety of these techniques have been applied to several buried soils at archaeological sites in Canada, revealing some of the less visible factors involved in soil formation. The recognition and identification of these processes are vital to everything from the simple reconstruction of vegetation supported by these soils to the interpretation of how past groups utilized landscapes.

[229] see *Lyons, Diane E*; **[308]** see *Cyr, Howard J.*

Freeman, Sharon (Office of Archaeological Serv.)

[254] *Analysis of lithic technological organization at a Woodland Stage site in central Alabama*

The focus of this paper is a continuation of prehistoric cultural research from a Woodland Stage site in central Alabama. Excavations were conducted in 1976 and in 2006. Analysis results of chipped stone tools from both seasons were combined to create a substantial database utilizing a technological/morphological approach. Artifact distribution data of chipped stone tools and debitage indicate areas of lithic industry at the site. A Woodland pit house was identified during the 1976 season and cultural materials from the 2006 season are strongly suggestive of the likelihood of additional pit houses.

Freidel, David (Southern Methodist University)

[56] *The Significance of the Revisionist Paradigm of Ancestral Maya Postclassic (from Decadence to Cosmopolitanism)*

Sabloff and Rathje proposed that Postclassic lowland Maya societies were not decadent but rather pragmatically mercantilist. The elites of the Postclassic put their wealth-making energies into commerce and a broadening access to material well being for their constituents rather than into the imposing public monuments and palace arts of Classic elites. In evolutionary terms, the Postclassic was in important respects an advance rather than a decline compared to the Classic period. I evaluate this model in light of more than thirty years of research and analysis since its presentation.

[136] see Reese-Taylor, Kathryn

Freiwald, Carolyn (University of Wisconsin) and T. Douglas Price (University of Wisconsin - Madison)

[213] *Maya Migration Networks: methods for studying population movement in Belize*
Strontium isotopes ratios ($\text{Sr}^{87}/\text{Sr}^{86}$) in human bones and teeth have been used successfully to identify migration across Mesoamerica. This poster assesses the possibility of measuring population movement within a small region, comparing individuals from Upper Belize River Valley sites with those from the Mountain Pine Ridge site of Chalillo and Caracol in the Vaca Plateau. Isotopic signatures for each region are distinct, and each population should also have measurably different Sr signatures, making movement from one polity to the other visible in the archaeological record. Results are discussed in the context of existing studies and future research.

French, Diana (UBC Okanagan)

[145] *Cowboys and Cattle Where the Deer Once Roamed: The Impact of Ranching on Heritage Resources in Southern Interior British Columbia, Canada*

This paper will evaluate the impact of 140 years of cattle ranching on heritage resources in the Nicola Valley, southern British Columbia. Human agents, cattle activity, as well as natural erosion have all impacted pre- and post-contact cultural resources to varying degrees. Human agents include deforestation, the establishment of water control systems, construction of transportation routes and cowboy camps, as well as development of ranch tourist facilities. Cattle have also heavily impacted archaeological resources close to water bodies and wetlands, as well as destroyed aboriginal trails. Subsequent on-going natural erosion is an additional factor contributing to further degradation or disappearance of heritage sites.

French, Kirk (Pennsylvania State University) and Christopher Duffy (The Pennsylvania State University)

[158] *Prehispanic Water Pressure at Palenque*

Ancient water pressure systems have been documented extensively in the Old World. Pipe segments with graded diameter reductions were used to generate water pressure as early as 1400 BC. Until a recent discovery in Palenque of a sectional square pipe with similar graded reductions, the New World was thought absent of closed channel pressurized flow. Using hydraulic theory for open and closed conduits, scenarios of hydrologic and hydraulic conditions for operation are developed including the impacts of the wet and dry season runoff. This paper presents the hydroarchaeology of the New World's earliest known example of a water pressure system.

French, Kirk [129] see Hammerstedt, Scott W.

Fretwell, Hannah and Hannah Mattson (University of New Mexico)

[140] *Ornaments from the Pueblo Bonito Middens: A Preliminary Examination of Production and Consumption*

Previous researchers have concluded that finished ornaments and turquoise are differentially associated with Chacoan great houses, particularly with the large structures located in the bottom of the canyon. The recovery of jewelry items during the re-excavation of three trenches in the Pueblo Bonito trash mounds allows for an examination of ornament production and consumption associated with the structure from the perspective of a previously unexplored depositional context. This paper summarizes these ornaments and related materials and compares them to those recovered from both Pueblo Bonito itself and other sites in the canyon, including probable workshop areas.

Frey, Carol

[149] *The Later Stone Age at Die Kelders Cave 1 (Western Cape Province, South Africa): Stratigraphy and New Dates from the 1992-1995 Excavations*

The Later Stone Age (LSA) deposits at Die Kelders Cave 1 contain a rare and invaluable glimpse of early herders and their antecedents in South Africa's Western Cape Province. Archaeological material recovered from excavations in the 1990s could resolve

longstanding problems relating to the timing of livestock introductions and advance our uneven knowledge of this late prehistoric period, but these deposits have not yet been fully analyzed or described. I present a stratigraphic sequence for the LSA deposits from the 1992-1995 excavations, new radiocarbon dates and their implications for understanding pastoralism in the Western Cape.

Friesen, Max (University of Toronto)

[17] *Late Dorset Longhouses at Starvation Cove, Victoria Island: Contexts for Contact*
The fate of Late Dorset people, and their possible relationships with Thule newcomers, remain problematic issues in eastern Arctic archaeology. Late Dorset summer aggregation sites, marked by prominent "longhouses", may provide a key context for resolution of these issues, due to their central place in Late Dorset social structures. In this paper, I will describe a remarkable concentration of at least 12 longhouses near Starvation Cove, southeastern Victoria Island, Nunavut. While only preliminary information was collected during the first IPY field season of 2007, these enigmatic sites hold great promise for understanding Late Dorset and early Thule.

[294] see Howse, Lesley R.

Frink, Lisa (University of Nevada Las Vegas) and Kelly J. Knudson (Arizona State University)

[230] *Using Ethnoarchaeology and Soil Chemistry to Examine Herring and Salmon Fisheries on the Arctic Alaskan Coast*

The Yukon-Kuskokwim Delta coast in western Alaska is an ideal social and natural environment for archaeologists to study contemporary fisheries activity and their soils signatures. A combined methodological approach contributes to our evaluation and explanation of variability in the archaeological record. The Arctic delta permafrost soils and the fact that Yup'ik Eskimo people continue to harvest fish provide an opportunity to demonstrate the application of soils chemistry to the identification and interpretation of Indigenous practice and decision making. This paper will focus on two primary fisheries, herring and salmon, and evaluate how these different species impact the archaeological record.

[166] *Discussant*

Fritz, Gayle (Washington University in St Louis)

[204] *A Continent-wide Perspective on Agricultural Intensification and Social Organization Across North America, 3000-800 B.P.*

Farmers in the southwest United States and eastern woodlands at European contact shared key crops, but processes of intensification and forms of social organization were very different in various subregions, and they even differed in the same area at different times. Beginning at approximately 3000 B.P. and looking across the continent, complexity will be considered in light of factors including: water, soil, and temperature control; crop diversity and integration; degree of continued reliance on wild resources; social ranking; kinship; and religious control mechanisms.

Froese, Duane (Department of Earth and Atmospheric Sciences), Caitlin E. Buck (Department of Probability and Statistics, University of Sheffield), John J. Clague (Department of Earth Sciences, Simon Fraser University), Lynsey J. McColl (Department of Probability and Statistics, University of Sheffield) and P. Gregory Hare (Department of Tourism and Culture, Government of Yukon)

[260] *Rapid technological change following the White River eruption and the Athapaskan migration from Yukon Territory*

Radiocarbon dating of organic artifacts recovered from perennial ice patches in southern Yukon allows direct dating of technological change associated with the White River eruption. Bayesian modeling of the radiocarbon ages indicates that atlatl and throwing dart technology ended ~A.D. 800, coincident with the eruption. Based on modeling of radiocarbon ages, the eruption is about 150 years older than the earliest record of the bow and arrow in the ice patches. These data suggest that the White River eruption was a local disaster for northern Athapaskans and may have set in motion a migration, consistent with the eruption-migration hypothesis.

Fruhlinger, Jake (Idaho Army National Guard) and Tedd Jacobs (Boise State University)**[311] A Preliminary Model for Evaluating Site Use and Modern Impacts in the Northern Great Basin**

Three years of survey combined with 13 years of baseline data have provided information vital to the reassessment of archaeological sites within the Northern Great Basin. By combining this information with a preliminary resource reconstruction model we can begin to form questions of how the use of resources in an arid environment are conditioned by the social organization, group size, and mobility of past populations, and how archaeological sites are affected by not only past changes in the environment over time, but by modern agents as well. A unique predictive model based on this information could assist archaeologists in evaluating sites based upon not only past conditions, but modern impacts as well.

[311] Co-Organizer [311] Chair

Fryer, Brian J. [274] see *Hewitt, Barbara R.*

Fu, Yuqin [223] see *Zhou, Hui*

Fugate, Dody (Museum of New Mexico)**[211] Ritual Dog Burials in the Southwest**

While there have been a few publications on the physical attributes of dogs found in archaeological contexts throughout the Southwestern United States very little information on the burial context is in the public record. The reason these dogs were buried, has been overlooked. The author believes these burials are part of a broader context. This paper seeks to discuss these burials and speculate on possible links to similar rituals in Mexico, Central and South America.

Fukuhara, Hironori (Aichi Prefectural University), Kabata Shigeru (Universidad Nacional Autonoma de Mexico), Ruben Cabrera Castro (Instituto Nacional de Antropologia e Historia, Mexico), Saburo Sugiyama (Aichi Prefectural University) and Yuko Koga (Aichi Prefectural University)**[180] Summary of the Explorations in 1998-2004 at the Moon Pyramid, and an Architectural Analysis of the Moon Plaza Complex**

The Moon Pyramid Project has generated a wealth of new information regarding the second largest monument at Teotihuacan, its immediate surroundings, and the symbolic significance and incremental growth of sacred space within the city. A central goal of the project has been to better understand the development of the monument in relation to other building programs within Teotihuacan as well as to the city's interactions with neighboring communities and contemporaneous societies. This paper summarizes the major discoveries of the project and charts the growth of the Moon Plaza Complex as a whole, framing the monument within its broader context.

Fuld, Kristen [175] see *Davis, Sara J.*

Fuller, Benjamin (Max Planck Institute for Evolutionary Anthropology), Michael Richards (Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology) and Nicholas Marquez-Grant (Heritage Burial Services, Oxford Archaeology, Janus House, Osney Mead, Oxford OX)**[286] Diachronic Dietary Patterns on the Islands of Formentera and Ibiza, Spain**

To gain an understanding of the food resources consumed on the islands of Formentera and Ibiza, human remains spanning the Chalcolithic, Punic, Late Antiquity-Early Byzantine, and Islamic periods were analyzed for carbon and nitrogen stable isotope ratios. The aim of this research was to characterize if and to what extent the dietary patterns of the inhabitants of these islands changed through ≈3000 years of human occupation. Since these sites are located on islands in the western Mediterranean Sea, we will report on the possible importance that marine dietary resources may have played in the food economy of these inhabitants.

Fullerton, Ben [57] see Wolverton, Steve

Fulton, Tina (California State University Los Angeles SRI-Statistical Research Inc.)

[202] *The Worked Bone from CA-SNI-214*

In the summer of 1989, test excavations at CA-SNI-214 recovered an eroding human burial. An inland site on San Nicolas Island, CA-SNI-214 is located off the coast of southern California. This presentation focuses on worked bone found with a tightly flexed burial of an adult male. The types of worked bone recovered with the burial demonstrate an array of daily activities the past inhabitants may have participated in. The quantity of worked bone found with the burial suggests this individual was significant. The worked bone from CA-SNI-214 provides compelling evidence of a unique past island culture on San Nicolas Island.

Funk, Caroline

[270] *Historic Yup'ik Landscape and Memory-Based Information Storage Process*

Among the Yup'ik of western Alaska, multiple classes of information are stored and accessed through the interaction of oral history and site location. Subsistence data are important for any location, but subsistence is one component among data which include social, political and historical processes. An archaeological site location study informed by oral history revealed these patterns of information storage; providing insight into Yup'ik notions of what significantly influences physical and cultural survival. If the Yup'ik context is typical of hunter-gatherer processes, more types of information are stored more thoroughly than expected from the materialist perspective present in hunter-gatherer archaeological studies.

Funk, Caroline [94] see Haws, Jonathan A.; [17] see Odess, Daniel

Gabe, Caroline (University of New Mexico)

[4] *Gender Imagery in the American Southwest*

The elaborate kiva murals of the Pueblo IV period in the Ancestral Puebloan area present a rare opportunity to examine anthropomorphic imagery. This project uses murals from five sites throughout the northern American Southwest to explore gender roles and relations. Statistical analyses of seventy-eight contextual characteristics revealed a significant difference between gender and ritual object associations. The distribution of individuals also suggests the possibility of gender scheduling of ritual activities. Results of this study provide an independent line of evidence on which to test previous assumptions and hypotheses of gender relations developed from both ethnohistoric analogies and the archaeological record.

Gabelmann, Olga (Free University Berlin, Germany)

[298] *Formative Period Pottery Production and Spatial Site Division: an example from Santa Lucía, Cochabamba, Bolivia*

The surface of the archaeological site of Santa Lucía yields about 200 fragmented firing platforms for pottery production, encircling a residential area. The use of these firing platforms could be dated between 500 BC – 60 AD. This time span comprises only the last occupation phase of Santa Lucía. Two elder phases, also in relation with pottery production, were detected by excavations. Nevertheless, the production in the last phase seems to have reached industrial levels, which is due to socio-political changes in the south-central Andes in the second half of the first millennium BC.

Gaffney, Chris (Remote Vision Research), Gareth Sears (University of Birmingham, UK), Susan Kane (Oberlin College, Ohio) and Vince Gaffney (University of Birmingham, UK)

[54] *Linking buried and monumental archaeology at Cyrene, Libya.*

Cyrene, a designated UNESCO World Heritage Site (WHS) in modern Libya, was the leading city of the Libyan Pentapolis. Settled by Greek colonists in the 7th century B.C., it remained an active Graeco-Roman city of distinctively Hellenic character until the time of the Islamic conquest. While many excavations have taken place on the site, this paper will

detail novel non-invasive methods using Real-Time GPS navigation for magnetometry and high density scanners; this will illustrate the digital link between upstanding monuments and buried archaeology. The GIS based analysis is fundamental to the understanding of the site and management of the WHS.

[54] *Co-Organizer*

Gaffney, Vince [54] see *Gaffney, Chris*

Gaines, Edmund, Gaudalope Sanchez-Miranda (Instituto Nacional de Antropología e Historia, University of Arizona) and Vance Holliday (University of Arizona)

[32] *Paleoindian Sites in Sonora, Mexico*

The Mexican state of Sonora exhibits widespread evidence of a late Pleistocene/early Holocene human occupation consisting of diagnostic Paleoindian artifacts from at least 12 locales. Recent investigations sponsored by the Argonaut Archaeological Research Fund and in collaboration with the Instituto Nacional Antropología e Historia (INAH), have focused on examination of surface collections and limited testing at several of these sites. This paper summarizes our current understanding of Paleoindian archaeology in Sonora. These data are important for extending our understanding of Paleoindian landuse and site types in addition to technology, typology, and raw material preferences in Northwest Mexico.

Gains, Edmund [32] see *Sanchez Miranda, Guadalupe*

Gaither, Catherine [274] see *Bethard, Jonathan D.*

Galaty, Michael (Millsaps College), Attila Gyucha (Múnkacsy Mihály Múzeum), Christopher Fisher (Colorado State University), Heather Rypkema (University of Louisville) and Zamir Tafilica (Shkodër Historical Museum)

[206] *The Shala Valley Project, Northern Albania, 2007: Results from the Prehistoric Site of Grunas*

During the 2007 field season of the Shala Valley Project (SVP) we conducted a large scale program of auger coring, soil chemistry surveys, and test excavation at the Bronze-Iron Age site of Grunas, discovered by the SVP in 2005 and first investigated in 2006. Results indicate that the large terraces and fortification wall at the site were almost certainly built sometime during the Bronze Age and that many of the terraces were occupied, perhaps by wattle and daub houses.

Gale, Sara

[104] *Finding Factionalism in an Aggregating Society: Use-life of a plaza at San Lazaro Pueblo*

As more Ancestral Puebloans arrived in the Galisteo Basin and specifically at San Lazaro Pueblo, beginning around A.D. 1300, modifications to the built environment quickly and continually ensued. These modifications, which were recently studied through the combination of ground-penetrating radar data and test excavations, reflect that periods of both social integration and factionalism occurred at the pueblo. An analysis of the construction, modification, and abandonment, or use-life, of one central plaza was expounded upon to interpret the effects of dynamic population and social changes on the built environment of the entire pueblo.

Galeta, Patrik [85] see *Sosna, Daniel*

Galindo, Marisela (California State University, Long Beach)

[48] *Faunal Classification of a Roman Fort in Menorca, Spain*

When the Romans arrived in Menorca, Spain in 123 B.C., one of the cities that they built was that of Sanisera, around the port of Santitja. My research involves a faunal investigation concerning the Roman fort here. I will classify a collection of fauna that have been exhumed. This will allow me to determine the animals utilized in this fort and to make inferences about animals that were in the Roman soldier's diet. I will include a comparison of this military fort to others throughout the Roman world, to see if I can detect homologous

similarity in Roman military encampments.

Gallaga, Emiliano (Director Del Centro INAH, Chiapas Museo Regional De Chiapas)

[198] *The Nébomes, the Rio Yaqui, and Shell: Preliminary thoughts about shell consumption in the Onavas Valley, Sonora*

Recent research in the Onavas Valley, in the south portion of Sonora, illustrated that the Nébome Prehispanic group worked and used shell goods, probably for local and regional markets. The preliminary results of the shell analysis of the Onavas Valley Archaeological Project will be presented here. The Onavas Valley is located on the middle Yaqui River area; this river is considered one of the shell trade route between the sonoran coast and the interior, so the descriptions of this material provide a good data base to start contrasting this concept.

Gallagher, Daphne (Museum of Anthropology)

[76] *Gulmance and Gobnangou: Political Control in Pre-Colonial Burkina Faso*

The Gulmance political entity (variously characterized as a state/paramount chiefdom/confederacy in the historical literature) theoretically maintained political authority over the Gobnangou region of southeastern Burkina Faso for most of the 2nd millennium AD. Using survey data that span pre-Gulmance, Gulmance, colonial, and post-colonial periods, this paper will outline changes in material culture and land use strategies to assess their relevance to shifts in political authority and/or power, leading towards a characterization of the nature of Gulmance authority and the degree to which that authority was largely symbolic or involved direct control.

Gallardo, Maria De Lourdes (Museo del Templo Mayor/INAH), Adrian Velazquez (Museo del Templo Mayor/INAH) and Norma Valentin (Subdirección de Laboratorios y Apoyo Academico/INAH)

[74] *The nacreous shell ensembles of Tlaloc at the Great Temple of Tenochtitlan*

Since 1978, Templo Mayor Project had recovered more than 120 offerings. Some had important ensembles of nacreous shell: offerings 24, 88 and Chambers II and III. At the beginning those sets were considered as necklaces, but in 2004, a investigation of the pieces from Chamber II, allowed us to propose a new interpretation about their conservation, identification, manufacture technique, significance, function, and final mounting at the museum. This paper is about some of the results from that work which are the basis for the interdisciplinary studies of the units from offering 24 and Chamber III.

Gallareta Negron, Tomas (INAH)

[56] *The Sayil Project and Puuc Settlement Studies*

The Puuc Region of Yucatan, Mexico, is of exceptional interest for understanding Classic Maya society because of its distinctive and influential architectural style, because of its high settlement density, and because of its unusual environmental circumstances. It was only after the initial results of the Sayil Project, initiated by Jeremy A. Sabloff in 1983, that several other archaeological projects began to focus on the study of Puuc settlement patterns. This paper will examine the legacy of the contributions of the Sayil Project to our understanding of community form and organization over the past twenty-five years.

Galle, Jillian (Monticello Archaeology Department)

[183] *Think Globally, Act Locally: Scholarly Collaboration through the Digital Archaeological Archive of Comparative Slavery (www.daacs.org)*

Since 2004, The Digital Archaeological Archive of Comparative Slavery (DAACS) has provided archaeologists with detailed archaeological data from slave quarter sites throughout the Atlantic World. Forged through collaborative partnerships in the US, Caribbean, and UK, DAACS's success lies in its regional focus, freely accessible data, and direct communication with scholars. DAACS also recognizes that archaeologists have difficulty keeping up with their own research and are frequently unable to contribute to collaborative digital projects without direct help. This paper discusses the philosophy behind DAACS and focuses on the methods used to facilitate data sharing and collaboration among scholars.

Galle, Jillian [124] see *Cooper, Leslie; [124] see Smith, Karen Y.*

Gallegos Gomora, Miriam (Centro INAH Tabasco)

[77] *Tejiendo y adornando su identidad: indumentaria y rol de la mujer prehispánica de Jonuta, Tabasco, Mexico*

En el mundo prehispánico la vestimenta y adornos de los individuos reflejan un metalenguaje donde se enlazan rasgos de su cosmogonía con las diferentes posiciones y roles alcanzados por el individuo portador de éstos. Las representaciones físicas de la indumentaria y ornamentos utilizados por la mujer que antiguamente habitó la región de Jonuta, corresponden principalmente a pequeñas figurillas de barro. En estas suelen ocultarse los genitales con diferentes tipos de prendas, pero al mismo tiempo la indumentaria remarcaba su identidad sexual como femenina e incluso aporta datos sobre su edad o cargo. De igual forma las poses, el tipo de peinados o las modificaciones corporales denominadas como la "piel social" permitían antaño señalar que tales rasgos eran los que caracterizaban y distinguían a las mujeres de Jonuta respecto a otras. Constituían un grupo de elementos nemotécnicos que ofrecían a la población cierta información o le dictaban determinado comportamiento (reflejado por ejemplo en las poses que presentan las figurillas). En esta ponencia se pretende presentar los avances que en este sentido se han logrado a través del estudio de una muestra de la extensa colección de figurillas de Jonuta, Tabasco, México.

Gallup, K. M. [305] see *Campbell, J. Michael*

Gamble, Clive [143] see *Blockley, Stella Marie*

Gamble, Lynn (San Diego State University)

[19] *Shell Bead Money and Network Power among the Chumash Indians: A Hunter-Gatherer Society in Southern California*

The 10,000 year archaeological record in the Santa Barbara Channel region provides evidence of the development of a network system of power that was characterized by abundant prestige goods, evidence of feasting, and elaborate burial rituals for the elite. Trade and shell beads were integral to the Chumash network strategy. Wealthy and powerful Chumash individuals living in the mainland centers were especially well-situated because of their strategically advantageous location on the coast. As market exchange, redistribution, and ritual congregations involved greater numbers of people from a wider geographic region over time, the elite in the mainland Chumash centers gained power.

Gann, Douglas (Center for Desert Archaeology)

[107] *Preservation Archaeology in the Upper Little Colorado Basin*

In the late 20th century, private archaeological programs at important ancestral Puebloan sites in the Upper Little Colorado Basin caused serious damage to the regional archaeological record. At sites such as Sherwood Ranch (or "Raven Pueblo") and the site of Casa Malpais, archaeological law enforcement and professional archaeological practice were unable to prevent or stop damage to these important places of the past. A preservation archaeology approach has been developed by the Center for Desert Archaeology, in close consultation with Hopi and Zuni tribes to balance the interpretive needs of heritage tourism and ethical application of archaeological preservation.

Gao, Shizhu [256] see *Cui, Yingqiu*

Gao, Xing [75] see *Zhang, Xiaoling*

Garber, James (Texas State University) and Jaime Awe (Belize Institute of Archaeology)

[181] *Ritual and Symbolism of the Early Maya of the Belize Valley*

Excavations at the sites of Cahal Pech and Blackman Eddy, Belize have revealed substantial early Maya deposits. Incised designs on ceramics indicate that the occupants of these sites were a part of a Pan-Mesoamerican symbol system during the Cunil phase (1000-800 BC). In the subsequent Jenney Creek phase, a wide range of ritual activity is

evident some of which parallels elements of the Popul Vuh creation story. his paper will examine the components of the symbol system, detail the elements of the ritual activity and examine how these play a role in the emergence of social complexity.

Garber, James [181] see Brown, M. Kathryn; [181] see Awe, Jaime J.

Garcea, Elena (University of Cassino)

[101] *Foragers in the Middle: The Central Sahara Perspective on Specialized Adaptation in Arid Environments*

Arid, or semi-arid, environments have been ordinary conditions in the Sahara and its people did not live at the edge of a more favorable environment, but continually coped with unstable resources that varied in availability according to their altitude/latitude and climate. Aterian populations developed skills to adapt to dry environments in the Upper Pleistocene and Early Holocene foragers successfully coped with low predictability and latent depauperation of food resources by developing a delayed-return strategy which eventually led to animal domestication and food production. In addition to economic resources, specialization involved settlement systems, mobility strategies, and risk and stress management.

[190] *Discussant*

Garcia, Johan [96] see Hosler, Dorothy

Garcia, Lidia (Universidad De Buenos Aires)

[298] *Society and environment at Inca Cueva 5, Jujuy*

Cave 5 at Inca Cueva gorge (Humahuaca Department, North West Argentina) offers evidences of human occupations since 2,000 years b.p. thru Inka times. It represents a complementary settlement to Alto Sapagua and Hornaditas open air sites to the east, at relative lower altitudes (3,750; 3,400; 3,200 m.a.s.l.). Analysis of placement, rock art, lithic materials, ceramics, sediments, zooarchaeology, radiocarbon datings, human and natural postdepositional processes are discussed. We intend the reconstruction of society use of the landscape during that period, considering interaction at different range circuits during the annual movements.

Garcia Albarido, Luis [57] see Garcia-Herbst, Arleen

García Puchol, Oreto [153] see McClure, Sarah B.

Garcia Sanjuán, Leonardo (University of Sevilla)

[153] *Reviewing social complexity in Copper Age SW Spain*

This paper is aimed at reviewing current interpretations of social complexity among the Copper Age social formations of SW Spain, with a special focus on recent proposals that describe them as "states". To this end, the case of the communities settled along the lower Guadalquivir river valley (with a special focus on the Valencina de la Concepcion settlement) is examined. The parameters of social complexity under consideration include population aggregation, productive intensification, craft specialization, political hierarchisation, power centralization and social inequality.

Garcia-Des Lauriers, Claudia

[155] *(Re)constructing Teotihuacan Identity at Los Horcones, Chiapas*

Within the discussions of Teotihuacan's presence abroad one of the most fundamental issues is the question of identity. How was Teotihuacan-style material culture used to construct Central Mexican identity and by whom? At the site of Los Horcones on the Pacific Coast of Chiapas, where trade from numerous regions was passing through, as well as being consumed locally, a cosmopolitan signature further blurs the boundaries. This international assemblage of material culture poses important challenges in identifying Teotihuacan identity, and also to understanding the dynamics of local identity formation amidst influences from diverse regions.

[155] *Chair*

Garcia-Des Lauriers, Claudia [180] see *Carballo, David M.*

Garcia-Herbst, Arleen (ASM Affiliates, INC./UC Santa Barbara), Arleen Garcia-Herbst (ASM Affiliates, Inc./UC Santa Barbara), José Luis Lanata (University of Buenos Aires), Luis Garcia Albarido (University of Buenos Aires) and Michael Shott (University of Akron)

[57] *Middle Holocene Hunter-Gatherer Adaptations: Patagonia and the Great Basin*
For most of archaeology's history, the hunter-gatherer material record has been viewed as discrete sites separated by voids, the sites representing ethnographic vignettes. Yet hunter-gatherers used their landscapes at least as much in continuous as discrete terms, generating complex and continuous material records. The record does not preserve ethnographic vignettes but time-averaged patterns of organization. We discuss the distribution of the archaeological record of different cases from Patagonia and the Great Basin, illustrating the different scenarios of human adaptation variability to semi-desert environments.

[236] *Co-Organizer*

Garcia-Herbst, Arleen [57] see *Garcia-Herbst, Arleen*

García-Moreno, Cristina (Universidad De Sonora/Centro INAH Sonora)

[273] *Archaeology along the Coastal Highway, Northwestern Sonora, Mexico*
Salvage archaeological excavations were conducted in 2005 at four prehistoric shell midden sites on the northeastern coast of the Gulf of California in Sonora, Mexico. The sites are on the eastern and northern sides of Adair Bay, in the path of a planned new coastal highway between Puerto Peñasco and Golfo de Santa Clara. Represented in the subsistence remains were 36 species of molluscs, and also crab, fish, and terrestrial fauna. Recovered artifacts included shell tools and ornaments, Late Archaic and Hohokam style projectile points, ground stone tools, and more than a thousand pottery sherds, including Hohokam and Trincheras styles.

Gardella, Kristen (University of Pennsylvania)

[298] *Sacrifice and Subsistence: Patterns of Camelid Exploitation at Tiwanaku, Bolivia*
Recent fieldwork at the site of Tiwanaku, Bolivia by the Proyecto Arqueológico Pumapunku-Akapana has seen an increase in the detailed analysis of faunal materials recovered from excavations. This paper will describe the results of analyses of a large sacrificial deposit of human and camelid remains and a later trash deposit from the Inka re-occupation and modification of the site. Though these were chronologically and functionally distinct events, their evaluation and comparison contributes to the understanding of patterns of camelid exploitation in pre-Columbian contexts.

Gardner, A. Dudley (Western Wyoming College) and Laura Pasacreta

[27] *Comparison of Micro-floral Remains From the Evanston, Wyoming Chinatown and a Chinese Bakery in Levuka, Fiji*

Archaeological excavations at two contemporaneous late nineteenth, early twentieth century Chinatowns in Evanston, Wyoming and Levuka, Fiji have gained insights into the diet and relative health of the sites' inhabitants. In this paper we will focus on two distinct Chinese communities in the Pacific Rim that share similarities and distinctions. This paper will present preliminary results of our excavations in Fiji and Wyoming and suggest some of the similarities and distinctions in diet, material culture and social use of space shared between these two Chinese communities from 1880 and 1920.

[66] see *Elliott, Gabrielle*

Gardner, Karen (California State University, Chico) and Roc Pursley (University of Arkansas)

[88] *Introducing Cueva Atumpampa: Preliminary survey of a large Chachapoyan burial cave in the North Central Andes of Peru*

The Chachapoya lived in north central Peru from at least 800 A.D. and resisted conquest by the Incas until 1475. While a few studies have been completed in the southern and western sectors of their territory, this is one of the first official studies in the northeast, and

the most extensive study of cave use in that region to date. Our presentation will review the 2007 season surface survey at Cueva Atumpampa and other nearby cave sites. Data presented will include preliminary demographic analysis, osteological observations including pathologies and trepanations, and an overview of regional cave use and burial practices.

Garman, James (Salve Regina University)

[68] *The Greed of These People is Great: An Archaeology of Mercantilism in the Rhode Island Colony*

This paper considers material life in two entrepôts: Newport, established in 1639, and Bristol, settled by Massachusetts Bay speculators in 1680 after the end of King Philip's War. Drawing on probate records, architectural evidence, and archaeological survey, the paper draws explicit comparisons between the material worlds of mercantile capitalists operating under markedly different religious, economic and social imperatives. Particular emphasis is paid to the specific ways in which New Englanders embraced more flamboyant and obvious forms of consumption than their more conservative counterparts farther up Narragansett Bay, and the implications of these distinctions for interpreting mercantilism in the New England colonies.

Garniewicz, Rexford C. [129] see Munson, Cheryl Ann

Garrard, Andrew [154] see Byrd, Brian F.

Garraty, Christopher (Arizona State University), Deborah Nichols (Dartmouth College) and Hector Neff (California State University, Long Beach)

[277] *Postclassic and Early Colonial Pottery Exchange in Cerro Portezuelo, Mexico*
Instrumental neutron activation analyses of ca. 200 Middle and Late Postclassic and Early Colonial period decorated and plainwares sherds highlight diachronic changes in patterns of pottery exchange at Cerro Portezuelo prior to and during the Aztec empire and during the first century of Spanish colonial rule. Our interpretations focus on the shifting economic and political relationships between Cerro Portezuelo and other regions and polities in the Basin of Mexico, especially the major political and market centers, such as Middle Postclassic Culhuacan, Late Postclassic Tenochtitlan and Texcoco, and post-conquest Mexico City.

Garraty, Christopher P. [304] see Heckman, Robert A.

Garrison, Amanda (University of California, Santa Barbara) and Erik Marsh

[298] *Food Production and the Rise of Complexity at Khonkho Wankane*

This paper discusses the way food production defines and reinforces social relationships within the context of developing social complexity. At the Formative site of Khonkho Wankane, in the Bolivian Altiplano, activity areas are strictly defined by architecture. Analysis of groundstone helps define both the mundane and ceremonial activity areas of food production. Analysis of groundstone supports the idea that Khonkho Wankane was a pilgrimage center with a relatively low permanent occupation and that food production was focused on locally available resources. These emerging patterns of food production and social organization at Khonkho Wankane persisted into the growing Tiwanaku state.

Garver, Lydia, Alicia Ebbett (Indiana University), April K. Sievert (Indiana University) and Joshua J. Wells (Indiana University)

[293] *Making the Grade Part 2: Graduate Students as Future Educators*

Introductory courses represent rare opportunities in which the public gives the archaeologist an entire semester to explain what it is that they should know about archaeology. Are we maximizing on these opportunities or are we squandering them in survey of civilizations slideshows? We draw on two years of research on the pedagogical training of graduate students to address two issues: 1) how instructors and TAs can make introductory courses more effective vehicles for promoting archaeological literacy and 2) assessing the impact pedagogical training has on the careers of graduate students and the future of archaeology as a discipline.

Garvey, Jillian (La Trobe University, Australia)

[75] *Hunting strategies in late Pleistocene southwest Tasmania: the economic anatomy of the Bennett's wallaby*

Australian Aborigines in southwest Tasmania adapted to the harsh late Pleistocene environment by focusing on a particular prey species; the Bennett's wallaby (*Macropus rufogriseus*). Previous studies suggest that the over-representation of specific macropod body parts and skeletal elements (in particular the split hindlimbs) implies humans were targeting these bones for their relatively large marrow yield as part of their high latitude survival strategy. However this assumption has yet to be tested. Investigation of the economic anatomy and bone marrow analysis of the Bennett's wallaby will help to better understand human adaptation and hunting behaviour in late Pleistocene Tasmania.

Garvey, Jillian [75] see *Pike-Tay, Anne*

Garza, Sergio (University of California, Riverside)

[280] *The Cosmological and Social Significance of Quen Santo in Contemporary Maya Society*

Eduard Seler's Caves 2 and 3 at Quen Santo, Huehuetenago, Guatemala are the focus of a modern pilgrimage site with deep cosmological significance for the Chuj Maya and other nearby linguistic groups. Cave 3 is considered to be the place where the sun was born and the residence of the ancestral couple who produced the Chuj. In addition, the caves are considered to be part of the highest order of sacred sites that include Yalan Na, the cave near Santa Eulalia in the Q'anjob'al area and Yula', the cave near Jacaltenango in the Jakalteko area.

Garza, Sergio [280] see *Perez, Arturo E.*; **[280]** see *Alejo, Lauren M.*; **[280]** see *Cobb, Allan B.*

Garza Tarazona, Silvia [14] see *Gonzalez-Crespo, Norberto*

Gasco, Janine

[155] *Material Culture and Ethnic Identity in Colonial and Postcolonial Soconusco*

The Pacific coast of Chiapas and Guatemala is a natural immigration route linking Mexico with Central and South America, and the region has been at least a temporary home for a number of ethnolinguistic groups. In the Soconusco region, the Colonial and Postcolonial years have been particularly dynamic periods for immigration, and historical documents frequently note the ethnolinguistic identity of the region's residents. Unlike the neighboring highland zones that have retained a strong indigenous identity, people in the Soconusco no longer identify themselves as indigenous. In this paper I explore the material evidence, archaeological and documentary, for this identity shift.

[301] *Discussant*; **[155]** see *Chinchilla, Oswaldo*; **[87]** see *Holland, Karl P.*

Gaspar, Madu [177] see *DeBlasis, Paulo*

Gaspar, Maria (Museu Nacional) [292] *Discussant*; **[139]** see *Scheel-Ybert, Rita*

Gaudzinski-Windheuser, Sabine (Römisch-Germanisches Zentralmuseum, Forschungsbereich Altsteinzeit), Lutz Kindler (Römisch-Germanisches Zentralmuseum, Forschungsbereich Altsteinzeit, Germany), Naama Goren-Inbar (Hebrew-University, Israel) and Rivka Rabinovich (Hebrew University, Israel)

[94] *Hominins and natural agents in the formation of bone surface modifications at the Acheulian site of Gesher Benot Ya'ayov, Israel*

This study was designed to test whether the faunal assemblage uncovered from lake margin deposits of the ca 800,000 years old site of GBY is homogeneous in character. The bones of different species show also various degrees of weathering and abrasion, but all display cut marks and sediment induced striations. We focused upon the taphonomic processes involved in the formation of the striations in several experiments which simulate movements of bones due to water action and trampling within shoreline sediments. Our

results demonstrate that despite the differences in preservation and surface damage the bones from GBY originate from a homogenous assemblage.

Gauthier, Tara [172] see *McCutcheon, Patrick T.*

Gaylord, Donald (Thomas Jefferson Foundation)

[281] *Investigating the Causes of Variability in House-Site Artifact Density on Historic Sites in Virginia*

Domestic sites occupied during the 18th and early 19th century in Virginia display differing patterns of artifact density. This variability has many potential sources. For instance, is it caused by differences in depositional behavior or is it caused by post depositional processes such as plowing or to both? Building on previous ethnographic and theoretical research I will explore this question by analyzing evidence from archaeological sites catalogued in the DAACS database. Plowed and unplowed house-sites will be compared, as will ones with and without sub-surface features. Quantitative analysis will focus on artifact size distributions and their variability by type and form.

Gebhard, Rupert [92] see *Wagner, Ursel*

Gelvin-Reymiller, Carol [220] see *Bowers, Peter*

Gendron, Daniel (Avataq Cultural Institute), Pierre Desrosiers (Avataq Cultural Institute) and Tommy Weetaluktuk (Avataq Cultural Institute)

[17] *Thule Dynamics in Nunavik*

This research project carried out within the International Polar Year focuses on earliest Thule occupation and adaptation in Nunavik (Northern Quebec). It examines the relationship between new settlements and environmental constraints in a previously unknown landscape and how this affect the land-based knowledge baggage possessed by the new settlers.

[271] *Discussant*

George, Brandy (Timmins Martelle Heritage Consultants Inc.)

[300] *Archaeology and First Nations: Interactions and Relationships within Cultural Resource Management in Ontario, Canada*

Cultural resource management in Ontario is changing at a fast rate, with many archaeologists looking for a way to consult with First Nations. Through my interactions and relationships as a Native Archaeologist working among First Nations, I will share and compare differences and common concerns among these groups as it pertains to archaeology. As First Nations become aware and involved, archaeology will need to undergo changes, and some possible stepping stones for change will also be discussed.

Gerke, Tammie L. [259] see *Mentzer, Susan M.*

German, Senta

[195] *Unprovenanced Artifacts and the Invention of Minoan Religion*

Since their first discovery in the 19th century, the artifacts from the Minoan culture of 2nd millennium Crete have been sought by museums and collectors of antiquities. From these objects, as well as archaeological remains, scholars have worked to reconstruct various aspects of Minoan society. My talk will look at the use of unprovenanced materials in the reconstruction of Minoan religion and will comment on how they have, in some instances, rendered questionable cultural narratives.

Gernat, Tim [91] see *Steele, Teresa E.*

Gerrard, Lori (University of Texas At San Antonio) and Robert J. Hard (University of Texas at San Antonio)

[162] *Early Warfare and Segmentary Societies in Northwestern Mexico*

Roney and Hard argue that Cerro Juanaqueña and other cerros de trincheras of northwestern Chihuahua, Mexico were constructed as defensive settlements about 3000

years ago and are some of the earliest fortified settlements in northwest Mexico and southwest U.S. Based on cross-cultural research Raymond Kelly (2000) argues that hunter-gatherer societies with segmented social organization are involved in warfare with a much greater frequency than unsegmented societies, suggesting that segmented societies were some of the earliest warring groups. We consider the possibility that some of the cerros de trincheras of northwestern Mexico were planned and constructed to accommodate related segments of a society.

Gestsdóttir, Hildur (Institute of Archaeology) and T. Douglas Price (University of Wisconsin, Madison)

[291] *The settlement of Iceland; analysis of strontium isotopes in human remains*
The Book of the Settlements which chronicles the settlement of Iceland, of which the earliest versions exist from the 13th century, records the settlement of Iceland in AD 874 and states that the entire country was settled simultaneously and that the settlement period only lasted for 60 years. This paper will present the results of an ongoing project which involves the study of the process of colonization in Iceland through the use of strontium isotope analysis of human tooth enamel from skeletons dating to the pagan and early Christian periods.

Geurds, Alexander (Leiden University) and Laura van Broekhoven (Leiden University)

[240] *Perspectives on exchange in central Nicaragua: The Río Mayales River Valley Survey*

Recent research has refined and nuanced our understanding of the complex relationship between political and economical dimensions in Pre-Hispanic Middle America. Rather than viewing the presence of exotics as elite conspicuous consumption, merged analytical frameworks now look at how strategic choices are made and reflect a societies' intent and subsequent level of success in fitting into local social structures as well as forming part of extra-local exchange networks. In this paper data is presented from a surface survey conducted in the central Nicaraguan Rio Mayales river valley, and analyzed for indications of political power as well as ritual economic activity.

Ghezzi, Ivan [292] see Hodgins, Greg W.

Gibb, James

[305] *Late Archaic Site Size and Siting in the Chesapeake Bay Region*

Recent investigations led to the discovery of single-component, unplowed Late Archaic deposits in the Susquehanna and Potomac drainages of the Chesapeake Bay in Maryland. Each of the five loci measured approximately 20 m in diameter and all bordered relict stream channels. Four of the loci form two pairs, suggesting social differentiation. These findings have implications for the discovery and evaluation of early prehistoric deposits in the Chesapeake region.

Gibbs, Kevin (University of Toronto)

[161] *Culture and Community: Late Neolithic Pottery in Wadi Ziqlab, Jordan*

Investigations of the Late Neolithic period of the southern Levant have typically focussed on the grouping of sites into broad cultures, based primarily on similarities in pottery form and decoration. However, the proliferation of regional "cultural variants", especially during the 7th millennium BP, indicates this is not a straightforward process and suggests more detailed examinations of local ceramic traditions are needed. To contribute to this goal I present the results of stylistic and technological analyses of Late Neolithic pottery from several sites in Wadi Ziqlab, Jordan, and comment on the use of cultural categories in Late Neolithic research.

Gibbs, Kevin [86] see Gregg, Michael W.

Giblin, Julia

[160] *Strontium Isotope Analysis of Neolithic and Copper Age Populations from the Great Hungarian Plain*

This study addresses changes in mobility, diet, and social organization that occurred during the Neolithic and Copper Age in the Great Hungarian Plain using strontium isotopes. The $^{87}\text{Sr}/^{86}\text{Sr}$ isotope ratio has been used previously to identify migration, conquest, and intermarriage. No major events of population movement are identified however isotope values change from a narrow range in the Neolithic to a much broader range in the Copper Age, suggesting that changes in lifestyle affected incorporation of strontium into the skeleton. The results of this paper indicate that strontium is a valuable tool for identifying more subtle changes in prehistoric behavior.

Gibson, Catriona [276] see *Biehl, Peter F.*

Gibson, Erin (Department of Archaeology University of Glasgow, Scotland)

[81] *The archaeology of social interaction: the formation of 'place' in a lived landscape*
Although intensive regional survey offers robust data on human activity, settlement and land use, there has been too little attempt to broaden understandings of landscape beyond recording and interpreting material culture as products of interaction. This paper outlines a social approach to the landscape concept by examining communication and human interaction – roads, paths, their markers and monuments. Drawing on survey data from the historic Middle East I illustrate how the materiality of human interaction cannot be separated from the social fabric in which it was woven – the complex relationship between physical movement, 'places' and meanings of social landscape.

Gibson, Heather (McGill University (Montreal))

[182] *Getting by at La Mahaudière: Material Culture and Household Economies on a Guadeloupean Plantation*

Research at La Mahaudière has yielded many insights into the daily lives of enslaved laborers in Guadeloupe. While the archaeological record speaks to a marked degree of material impoverishment in the eighteenth and nineteenth centuries, it also suggests ways that village inhabitants used and adapted spaces and objects to fit their needs. This paper uses the idea of "getting by," what Posnansky has called "coping" in the West African context, to examine the architecture and material culture of village households. Along with archival clues, this material allows us to interpret household economies and their role in mediating challenging historical circumstances.

Gibson, Jon

[72] *Navel to Navel: Luck, Logistics, or Legacy in Building Poverty Point*

The Lower Jackson mound is incorporated into Poverty Point's main mound alignment despite being 13 centuries older. What role did luck, logistics, or legacy play in this linkage?

Gibson, McGuire [137] see *Studevent-Hickman, Benjamin*

Giesso, Martin (Northeastern Illinois University, Department of Anthropology) and Michael Glascock (Missouri University Research Reactor)

[241] *Obsidian circulation in the Tiwanaku heartland*

INAA and XRF analysis of obsidian from urban and rural sites of the Tiwanaku heartland is matched with quarry obsidian from Peru and Bolivia. There is a predominance of one main source, Chivay, while several groups also obtained obsidian from 10 other sources. We explore urban versus rural access, differences in access among urban groups from A.D. 500 to 1000, and compare with obsidian procurement in the region during the Formative period. Obsidian from 2 sources in the center of the Wari state (Quispisisa and Jampatilla) suggests exchanges between both polities.

Giesso, Martin [241] see *Duran, Víctor Alberto*

Gifford, Chad [37] see *Connell, Samuel V.*

Gifford, John (University of Miami) and Steven Koski (University of Miami)

[258] *The Paleo-Indian Component of Little Salt Spring (8So18)*

Little Salt Spring is a cover-collapse sinkhole with an active spring in southern Sarasota

County, Florida. Since 1992 limited test excavations have been conducted in the spring basin (less than 15m deep), exposing organic artifacts as old as ca. 9500 rcybp. In 1975 archaeologists recovered a wooden stake dating to 12ka rcybp in direct association with the remains of an extinct tortoise (SCIENCE 1979, 203 [4381]) at a depth of 27m. This evidence will be re-evaluated, and a research design for resumption of archaeological survey and test excavation on the 27m Ledge in 2008 will be presented.

Gifford-Gonzalez, Diane (University of California)

[36] *Holocene Monterey Bay Fur Seals: Distribution, Dates, Social and Ecological Implications*

Greater Monterey Bay, California archaeofaunas and over 40 AMS bone dates show that northern fur seals were the most abundant marine mammal taken by hunters between c. 2200 and 1200 cal. B.P. Their last appearance is by 1100 cal. B.P., earlier than 1000-800 cal B.P., Medieval Warm Period drought. New dates thus shift fur seals' disappearance from an era of terrestrial environmental crisis to one of sociocultural elaboration, raising questions about motivations for their apparent regional extirpation. Fluctuations in fur seal metapopulations in ENSO-affected temperate latitudes, as well as Holocene changes in coastal affordances for fur seals, are considered.

Gifford-Gonzalez, Diane [190] see Marshall, Fiona B.

Gil, Adolfo (CONICET-Museo De Historia Natural De San Rafael) [57] Chair

Gil, Adolfo [57] see Neme, Gustavo A.

Gilbert, Marcus Thomas (University of Copenhagen), Dennis Jenkins (Museum of Natural and Cultural History, University of Oregon) and Eske Willerslev (University of Copenhagen, Denmark)

[256] *Ancient DNA from Coprolites Reveal Pre-Clovis Human Presence in North America*
The first human colonization of the Americas remains a contentious topic. The theories can be simplistically divided into two classes, those arguing for a first migration associated with the Clovis complex ca. 11-10.8 thousand radiocarbon (14C) years ago (Clovis-first), versus those that argue for older entries. Here, we reveal the presence of coprolites from the Paisley Caves in south-central Oregon dating back as far as 12.3 thousand 14C years before present that contain human mitochondrial DNA. They reveal that humans carrying Native American mtDNA were present in North America over 1000 14C years before the earliest evidence of Clovis.

Gillam, J. Christopher (SCIAA-USC) and Rafael Suárez (Museo de Historia Natural y Antropología, Montevideo, Uruguay)

[265] *The Pleistocene-Holocene Transition of Uruguay*

Archaeological survey of the Pleistocene-Holocene transition in Uruguay has revealed many new discoveries. Characterized by two point types, Fishtail and Pay Paso, and uniface tools, early hunter-gatherers exploited the temperate grass- and shrub-lands of the interior and their corresponding deciduous forests along stream margins dissecting the rolling hills of the region. Little is known about coastal adaptations of the period as the coastal zone is now submerged 100 kilometers east of the modern Atlantic coastline. Lithic studies and GIS modeling techniques are being used to further examine the technology, settlement, and ecological niches of these early hunter-gatherers.

[236] *Discussant*

Gillette, Donna (University of California, Berkeley) and Teresa Miller Saltzman (M.A.)

[71] *Recent Advances in Rock Art Research*

The study of culturally marked boulders (rock art) has historically held a marginalized role in mainstream archaeology, largely due to a lack of scientific dating techniques. With the growing acceptance of rock art studies as a viable sub-discipline of archaeology, we propose that marked boulders, specifically the Pecked Curvilinear Nucleated (PCN) tradition found in the Coastal Ranges of California, can be treated and analyzed as an artifact, and placed in a temporal period and sequence, by relating them to associated

artifactual assemblages. This hypothesized model applied to the PCN tradition may also be relevant to other cultural markings.

Gillis, Nichole (Public Archaeology Laboratory, Inc.) and Sarah Sterling (Portland State University)

[172] *Structural Features at Tse-whit-zen: The Building History of a Large Pre-contact Village in Washington State*

Excavation of the Tse-whit-zen site (45CA523) along the shoreline of Port Angeles Harbor provided information about seven structures built and occupied between ca. 1800-300 BP. Numerous features associated with structures, including post-molds, wood posts, and long linear stains, were also identified on old beach surfaces within the project area. Structural data from beach mapping and excavation at Tse-whit-zen are compared to ethnographic and archaeological information from other locations in the region. Analysis of structural features exposed on old beach surfaces is used to further test hypotheses on construction techniques, activity areas, and village and house organization at Tse-whit-zen.

Gilman, Antonio (California State University) [153] Chair [153] Co-Organizer

Gilman, Patricia (University of Oklahoma) [199] Discussant

Gilmore, Kevin (U of Denver Archaeological Research Inst) and Sean Larmore (ERO Corp.)

[62] *Migration Models and the Athapaskan Diaspora as viewed from the Colorado High Country*

Like all migrations, the movement of Athapaskans from their northern homeland into the area they occupied at the time of contact was the end result of a combination of social and environmental factors. Human migrations are rarely the product of unilinear movement of population; they are instead the product of a complex sequence of stages usually involving back and forth movement of both people and information. Proto-Apache sites in Colorado provide evidence for both chain and reverse migration strategies used by Athapaskans to move through and ultimately occupy high-elevation landscapes, presumably aided by high-latitude adaptations retained from their northern homeland.

Gilstrap, Will (California State University, Long Beach), Carl Lipo (California State University, Long Beach) and Hector Neff (California State University, Long Beach)

[11] *The Chronology and Variability of Etruscan Architectural Terracotta*

The use of terracotta as an architectural material in Italy is thought to have come into practice in the mid 7th C. BCE. This study evaluates this notion through the generation of luminescence dates on roof tiles from Poggio Civitate, Italy. In addition, I evaluate compositional variability using TOF-ICP-MS analyses. The ability to temporally relate terracotta material through time provides a means for generating an evolutionary account of the technology change involved in tile manufacture over time and across space.

Gingerich, Joseph (University of Wyoming)

[128] *Paleoindian Hearth Features: An Example from Shawnee-Minisink*

Early Paleoindian hearth features are rare or difficult to identify at many sites, and detailed descriptions of such features are uncommon in the Paleoindian literature. To contribute to our understanding of Paleoindian features, I present the results of the excavation of two Clovis-aged hearths at the Shawnee-Minisink site in northeastern Pennsylvania. This discussion includes a brief description of their morphology, formation, and hearth-centered activities. Additionally, I discuss the recent recovery of paleobotanical samples, which are probable food remains, and a series of radiocarbon assays that directly date the occupation. This presentation provides new insight into Paleoindian subsistence practices and reaffirms the importance of new dates for fluted point sites in eastern North America.

Ginn, Sarah (University of California Santa Cruz)

[290] *Investigating Culture Contact through Mission Wares: A Practice Theory Approach to Studying Ceramics in Spanish Colonial California*

Through a study of Mission ware ceramics, I investigate the interface of the eclectic ethnic

mélange of individuals who lived and worked in the California Missions. Mission Indians created networks of alliances in ways that may have cross-cut ethnic boundaries of "Spanish" and "Native." I use a practice theory approach to argue that groups of individuals who produced material goods in similar, patterned ways participate in a community of practice, and share a common identity. This paper takes the above approach in a comparative investigation of Mission Wares from Missions San Antonio, Santa Clara, and San Carlos de Borromeo.

[290] Co-Organizer

Giorgi, Rodorico [74] see Falcon, Tatiana

Giovas, Christina (University of Washington)

[243] *The Shell Game: Analytic Problems in Archaeological Mollusc Quantification*
Traditional methods of archaeological mollusc quantification can limit the integration of these data into a holistic understanding of prehistoric diet and resource exploitation at site-level and regional scales. Here, I examine these issues using data from the Caribbean coastal midden site of Grand Bay, Carriacou and discuss alternative approaches to mollusc quantification. Statistical explorations of traditional and alternative quantification techniques are examined with specific attention given to NISP, MNI and weight measurements. Results are discussed in relation to practical constraints and realizing zooarchaeology's central goals.

Giraldo, Santiago (Instituto Colombiano de Antropología e Historia)

[178] *Exclusive Space? Rethinking Status and Control in two Tairona Towns, Sierra Nevada de Santa Marta, Colombia*

This paper focuses on the relationship between architecture and political power in a non-state society characterized by apparently urban settlements. Current analyses addressing this relationship assume that harder to reach and more exclusive spaces hold a direct relationship to higher levels of power and status. Nevertheless, Tairona towns and buildings do not have high walls or gateways that subdivide, demarcate and parse out spaces, which are then used by different segments of society. Given the urban fabric's extreme permeability, how then can power and control be expressed where an exclusive architecture does not seem possible or even socially conceivable?

[178] Co-Organizer

Given, Olivia (University of Pennsylvania), Ben Marwick (Australian National University) and Joyce C. White (University of Pennsylvania Museum of Archaeology and Anthropology)

[141] *The Potential of Exploratory Regional Survey to Uncover Evidence of Human-Landscape Interaction: An Example from Northern Laos*

Is it possible to apply a landscape approach when archaeologists open a new area to research? The Middle Mekong Archaeological Project has implemented a regional research design to assess human/landscape interaction in the Luang Prabang area over the past 10,000 years. This archaeologically unexplored region is situated in an area considered a potential crossroads for people and technologies at several key points in Southeast Asian prehistory. Surface collections from 58 sites found, in combination with data important for a landscape perspective, provide evidence to evaluate this proposition.

Gjesfjeld, Erik and Chad Brock (Washington State University)

[174] *Methods of Phylogenetic Inference Using Archaeological Data*

Recently, archaeology has seen a growing interest in the uses of phylogenetic methods, specifically cladistic methods, for analysis of cultural data. However, in the biological phylogenetic community a significant amount of research is published using maximum likelihood and Bayesian phylogenetic approaches. This poster compares the assumptions and results of each approach and their potential for archaeological inquiry. This research uses data from sites throughout the Great Plains to test inferences about house variation. Archaeological data presents unique challenges for model-based approaches to phylogenetics but utilization of multiple approaches significantly enhances the potential for archaeological research.

Glaab, Rigden (Washington State University)

[209] *Integrating Technologies: Defining Patterns of Historic Ute Occupation in the Early 20th Century, Uintah Basin, Utah*

Throughout the Uintah Basin, Utah, historic Native American Ute participated in economic practices akin to Euro-American counterparts while maintaining aspects of traditional lithic technologies. This paper will examine artifacts from several potential historic Ute sites in the heart of the research area to build patterns of modified tool use and to compare cultural variation amongst deposited materials. Characteristics to be presented include archaeological assemblage differences, glass shard utilization (e.g., scraper implements), and site chronology based on temporally diagnostic items.

Glascock, Michael (University of Missouri) and William Parry (Hunter College, CUNY)

[277] *Obsidian from Cerro Portezuelo: sourcing artifacts from a long-duration site*

Questions about the relationship of Cerro Portezuelo to Teotihuacan during the Classic Period and the degree of continuity or change in material culture during the transition period and following the decline of Teotihuacan were addressed by using NAA and XRF to source a collection of obsidian artifacts. The sourcing results are being used to examine changes in the patterns of obsidian source exploitation in the Basin of Mexico and to explain broader political and economic developments during the Classic and Postclassic Periods.

Glascock, Michael [39] see Boulanger, Matthew T.; **[241]** see Giesso, Martin; **[241]** see Duran, Víctor Alberto; **[129]** see Ferguson, Jeffrey R.; **[231]** see Burger, Richard L.; **[304]** see Beary, Mark O.; **[245]** see Speakman, Robert J.; **[43]** see Andrews, Bradford W.; **[87]** see Holland, Karl P.; **[144]** see Overholtzer, Lisa; **[167]** see Popelka-Filcoff, Rachel S.

Glascock, Michael D. [6] see Coleman, Magen E.; **[216]** see Rosania, Corinne N.; **[43]** see Cecil, Leslie G.

Glatz, Claudia (Institute of Archaeology, University College London) and Aimée Plourde (Centre for the Evolution of Cultural Diversity, Institute of Archaeology, UCL)

[309] *Landscape Monuments and Political Competition in Late Bronze Age Anatolia: An Investigation of Costly Signaling Theory*

Display via landscape monuments provides elites a means to maintain and augment their socio-political status, thus acting as one of the processes by which increasing political hierarchy occurred. Neiman (1997) proposed that Maya stelae functioned as costly signals of political power, explaining how such display translated into increasing status. In Late Bronze Age Anatolia, monumental display, including figurative reliefs, inscriptions, dams and reservoirs, is one of the most visible arenas in which Hittite great kings projected territorial hegemony and negotiated its extent with both allies and competitors. We propose to assess such display using a costly signalling framework.

Glaude, Matt (Washington State University)

[193] *Waves in the Desert: Applying the Wave-of-Advance model to the spread of agriculture in the American Southwest*

The origin of agriculture in the American Southwest has been a source of extensive debate, as competing theories of indigenous invention and demic diffusion are used to explain its initial appearance. For the European Neolithic, the existence of the latter has been supported by the application of the Wave-of-Advance model, suggesting that this spread is caused by higher rates of reproductive success for initial migrants. Using GIS modeling, this paper discusses both the fit of this demographic model to the Southwestern archaeological record, as well as its suitability for understanding the spread of agricultural economies in the New World.

Glover, Jeffrey (Georgia State University)

[187] *The Yalahau Regional Settlement Pattern Survey: A Study Of Ancient Maya Socio-Political Organization*

The Yalahau Regional Settlement Pattern Survey (YRSPS) addresses the complex

negotiations that constituted ancient Maya society through an investigation of the distribution of settlement across the Yalahau region of northern Quintana Roo, Mexico. In particular, this paper explores how monumental architecture, through its size and the rituals conducted in and around it, materialized an enduring sense of community identity. In so doing, this paper examines the tensions within and between communities as socio-political strategies are negotiated and contested in the continually messy process of constituting society.

Glowacki, Donna (University of Notre Dame)

[228] *Religion and the Mesa Verde Migrations*

Marked changes in pueblo organization and public architecture in the Northern San Juan region during the early 1200s suggest some level of social, political, and religious reorganization. The transition from great kivas to plazas and elaborations on presumably Chacoan architecture (multi-walled structures) simultaneously express underlying continuities with deeply rooted customs and significant innovations in traditional practices. Tensions between maintaining continuity and accommodating innovation may have been an important contributor to social tensions prompting migration. If so, this interplay likely structured migrant group composition, the timing of emigration, and contributed to the religious developments defining the Pueblo IV period.

Gnivecki, Perry (Miami University)

[63] *Lucayan Toolkits: a Preliminary View*

This paper will compare two toolkits from two Lucayan sites on San Salvador, the Three Dog site and the Pigeon Creek site. A limestone figurine, a shell pendant, and a tool kit consisting of artifacts used to manufacture these objects were found together at the Three Dog site. A tool kit from the Pigeon Creek site consists of a conch hammer, conch pick, and coral pounder. Typically, these artifacts are found as discrete objects, but because they were found in association with one another, they offer new insights about Lucayan artifact production, use, and chaîne d'opératoire.

Godbout, Genevieve (Memorial University of Newfoundland)

[235] *Bread Ovens of Newfoundland's Petit Nord*

From the sixteenth century to the early twentieth, French fishermen came to the Petit Nord, a region of Newfoundland's Northern Peninsula, to harvest and process cod. International treaties prevented French crews from over-wintering in Newfoundland. Since crews could usually not secure a repeated access to a same site, fishing rooms typically comprised ephemeral structures requiring a minimal investment of resources and time, with the interesting exception of large bread ovens. The French bread ovens of the Petit Nord are witnesses of the socio-economic importance of bread in the fishing crews' lifeways, sense of cultural identity and appropriation of space.

Goddard, Jennifer (University of Cambridge)

[300] *A Human Right to Cultural Heritage: a Right to Dig or a Right to Protect?*

This paper considers the possible role that United Nations Universal Declarations on Human Rights (1948) and Cultural Diversity (2001) will play in site preservation and illicit antiquities debates. The archaeological tendency is to protect cultural heritage from unauthorized digging, but when local and Descendant digging becomes a process of identity and socio-cultural adhesion then it can also be seen as a right to participate in culture while contributing to ideals of cultural diversity. Thus, will professional and governmental stewardship withstand a human rights argument or will it be vilified as an homogenizing authority?

Godfrey, Evelyne (UK Science and Technology Facilities Council)

[272] *Concepts of Value and Quality in Early European Ironworking*

Archaeologists' interpretations regarding the technical quality of early iron objects have been heavily influenced by 19th and 20th century metallurgical ideas that have little relevance to the ancient material. This paper reviews the contexts from which archaeological iron artefacts and production remains are most commonly recovered; the cost in pre-Industrial Revolution terms of producing or acquiring iron objects; the typical iron

artefact type-range; adding value to iron objects; and how the artefacts are at variance with modern metallurgical standards. Conclusions are drawn on the nature of early ironwork, and on the likely perception of iron and steel in early societies.

Godsey, Jessica [258] see *Franklin, Jay D.*

Goebel, Ted (Texas A&M University)

[275] *What is the Nenana Complex?*

In 1993, John Hoffecker, Roger Powers, and I proposed that the Nenana Complex was "pre-microblade" and potentially ancestral to Clovis. We based our interpretations on the normative view that technological/typological differences potentially reflected cultural differences. Fifteen years later, we know that our model of the peopling of Beringia was over-simplified and possibly incorrect. Nenana was not "pre-microblade," and "non-microblade" Nenana-like industries persisted well into the Holocene. So, what is the Nenana complex? Here I revisit the problem through a new analysis of the Walker Road lithic assemblage, attempting to explain Nenana through the perspective of raw-material procurement and technological organization.

[199] *Discussant*

Goebel, Ted [249] see *Louderback, Lisbeth*

Goldbach, Jason

[50] *Lithic Analyses of a Multicomponent Site on a Ridgetop in Boone County, West Virginia*

One focus of recent research in the Ohio Valley Region has been the evolution of settlement-subsistence from the Archaic through the Woodland period, chronicling increases in sedentism and the exploitation of native cultigens. Multicomponent sites can provide valuable insight into how specific locations may have been utilized through time. Site 46Bo419 is one such site which was re-identified during a recent cultural resource management study and subjected to Phase II testing. The author will present the results of stage reduction, tool diversity and spatial analyses of the site's lithic assemblage.

Goldberg, Paul [269] see *Miller, Christopher E.; [259]* see *Berna, Francesco*

Golden, Jonathan (Drew University)

[96] *Who Dunnit? The development of "second-generation" metal technology in the southern Levant*

Several decades after the discovery of the famed Nahal Mishmar Hoard in the Judean Desert many important questions about complex metals in the southern Levant during Chalcolithic remain unanswered. The Levantine assemblage, comprising elegant castings made from "alloyed" copper has grown, yet direct evidence for their production is extremely rare. Fortunately, there are some new clues as to when and where these artifacts were made, and we can begin to answer questions about where the material came from, whether the goods were locally cast, who commissioned them, and what brought them to their final resting places.

Goldhausen, Marco [73] see *Makowski, Krzysztof*

Goldstein, David (NSF-Universidad Peruano Cayetano Heredia)

[263] *Developing a Paleoethnobotanical Research Program within the Proyecto Contisuyo, 1998-2008*

Initial projects during the first years of the Contisuyo program resulted in the systematic collection and storage of thousands of organic remains from various archaeological sites. The past ten years included efforts to create collection protocols, enhance resources for identifying plant remains, and build the infrastructure to generate reports germane to archaeological research. This commitment has passed on to a new generation of graduate students and Peruvian projects in the Moquegua Valley. Attention now turns to reviewing the boxes of stored materials as Peruvian students are being taught paleoethnobotanical research methods.

Goldstein, Lynne (Michigan State University) [177] Discussant

Goldstein, Paul, Alicia Boswell (UCSD) and Elizabeth Plunger (UCSD)

[232] *Tiwanaku Diaspora Households Revisited: Domestic Practice at Rio Muerto, Moquegua*

When Tiwanaku colonists settled the western lowland valleys of the Andes between AD 600 and 1000, they brought with them the domestic practices of their altiplano parent communities. Prior research at the Omo and Chen Chen sites has illustrated both the generic Tiwanaku habits of daily activities, and specific variations that points to subtraditions in Tiwanaku household practice. 1998 and 2007 excavations at the Rio Muerto complex, the world's best preserved Tiwanaku site, has shed new light on the shared and specific aspects of Tiwanaku house construction, disposal behavior, cuisine, tool and ceramic use, herding and agricultural practice.

[263] *Discussant*

Goldstein, Paul [88] see Baitzel, Sarah I.

Goldstein, Robin (Northwestern University)

[147] *A Tale of Two Valleys: A comparative approach to understanding long-term effects of imperial local interactions*

As Schreiber predicted (1992), Wari imperial occupation and control appear variably across the Middle Horizon landscape. The nature of this variation is frequently attributed to the incursion of Wari influence; local historical and cultural trajectories, however, are equally critical to shaping the character of colonial settlements. These differences are often highlighted during the redirection of postcolonial control of regional polities. My work compares Wari colonies in the Moquegua and Chuquibamba valleys to understand how local-imperial relationships shaped regional politics and economies during the Wari Empire, as well as their lasting effects after imperial collapse.

Golla, Victor [260] Discussant

Gomez, Esteban (University of California, Berkeley)

[59] *Cross-Cultural Interaction in the Gulf of Fonseca, Central America*

At the time of Spanish contact in 1524, the Gulf of Fonseca was occupied by multiple ethnic groups organized in cross-cutting social networks between peoples that spoke different languages, but occupied contiguous territories. Historical documentation of the Gulf of Fonseca and archaeological excavations at the indigenous village site of Conchagua Vieja, on the island of Conchagüita, have been employed to explore the diversity of connections and interactions that existed within the Gulf of Fonseca and economic linkages with communities in other regions. Research at Conchagua Vieja has focused on the nature of these social interactions over time and space.

Gomez Choque, Emmanuel [320] see Kurin, Danielle S.

Gomez Coutouly, Yan Axel

[245] *From Dyuktai Cave to Ushki Lake: new perspectives on the Palaeolithic microblade complex of Siberia*

A first-hand research was carried out in Yakutsk and Magadan on a number of sites related to the Palaeolithic microblade complex of Siberia. The main sites discussed here include Dyuktai Cave, Verkhne-Troitskaya, Ezhantsy (Yakutia), Kheta (Kolyma), Druchak-V (Priokhiote), Tytylvaam (Chukotka) and Ushki Lake (Kamchatka). These sites come from diverse environments and regions, and aren't always contemporaneous. This variety has allowed us to raise such issues as the possible presence of distinct pressure techniques, the role played by raw materials, the variability of bifacial technology in microblade assemblages, and possible cultural affiliations among regions and sites based on technological aspects.

Gomez-Gastelum, Luis (Universidad de Guadalajara)

[316] *Fresh water mollusks shells of Ancient Mexico*

The use of mollusks shells was common among the societies of Ancient Mexico; specimens of marine environments were specially valued. Nonetheless, this paper focuses in the use of freshwater mollusks, taking into account the type of object in relation to its archaeological context and temporality. A first approach to the symbolic meaning of these objects will be made in the general context of the thought system of the societies of Ancient Mexico. Last but not least, it will discuss the main problem that faces the study of these sorts of archaeological materials.

Goñi, Rafael [118] see Belardi, Juan Bautista

Gonzalez, Raymundo [253] see Folan, William J.

Gonzalez, Sara (University of California, Berkeley)

[9] *Making Dirt Pathways Digital: The Kashaya Pomo Interpretive Trail Project*

Whether it is creating community museums, exhibitions or holding 'Archaeology Days', the business of outreach, or public archaeology, is becoming a common feature of archaeological practice. Using both dirt and digital pathways, the Kashaya Pomo Interpretive Trail will introduce Fort Ross State Historic Park's visitors to the Kashaya Pomo Tribe, the former Russian American Company colony's original inhabitants. This poster provides an overview of the steps involved in creating a digital interpretive environment and illustrates how such avenues can be effectively used to create dialogues with the public about archaeology, cultural heritage and representations of the past.

Gonzalez, Troy

[234] *Excavations of an Epicentral Courtyard Group at Minanha, Belize: Diversity within an Ancient Maya Center*

This paper details the excavation of an epicentral courtyard group located on the palace acropolis at the site of Minanha, Belize. It defines this group in terms of its architecture, function and occupation and suggests that its inhabitants exhibited a variety of roles and statuses that demonstrate a significant degree of diversity both within the group itself and within the site as a whole. Insights gained from this data shed light on the nature and constitution of ancient Maya royal courts as well as the people who contributed to its daily maintenance.

González, Josefina [157] see Retamal, Rodrigo R.

González, Mariela [117] see Gutierrez, Maria A.

Gonzalez Quezada, Raul Francisco (Instituto de Investigaciones Antropológicas)

[242] *Arqueología materialista histórica y la práctica arqueológica de una fenomenología del lugar.*

Se argumenta sobre la necesidad de una interrelación hacia las posturas arqueológicas que han abordado el tema del espacio como lugar desde la fenomenología, desde y para una arqueología materialista histórica orientada por y para la exterioridad del sistema hegemónico presente. Es asumida la categoría de espacio social como un intento analéctico y metafísico que pretende trascender por un lado el horizonte ontológico heideggeriano con respecto una arqueología fenomenológica que se encuentra encerrada en la totalidad arqueológica; y por otro lado frente a categorías como modo de vida, espacio vivido y región geohistórica en la arqueología materialista histórica iberoamericana.

[242] Chair

Gonzalez-Crespo, Norberto (INAH-Morelos), Claudia Alvarado Léon (Proyecto Xochicalco), Juan Bernardo Albaitero Rosales (Proyecto Xochicalco) and Silvia Garza Tarazona (INAH-Morelos)

[14] *Barrios at Xochicalco? May the Data Talk*

Xochicalco grew and was abandoned in a short span of time. Such a rapid development

leads to the idea of a site with a really complex way of organizing its distribution, society and economy. The layout of the city supposes the existence of special living and working areas, the investigations on the site during the last 20 years gives us a bunch of data to let us define if such areas can be treated as barrios or not and the different implications that the existence or inexistence of this implies to the social organization of the Xochicalco.

Gonzalez-Licon, Ernesto (INAH-ENAH, Mexico)

[14] *The Mexicapan Barrio at Monte Alban, Oaxaca: An Approximation to Household Activities*

In this paper I discuss the spatial organization of Monte Alban into barrios and the characteristics of some of them. Major emphasis is given to the barrio of Mexicapan, located at the northern part of the Zapotec city and recently excavated by this author. Here, based in archaeological data from this barrio and some others, I analyze and compare some aspects of everyday life, economic specialization, and funerary practices.

Gonzalez-Morales, Manuel [303] see Straus, Lawrence G.

Gonzalez-Oliver, Angelica (Universidad Nacional Autonoma de Mexico), Alfonso Torre-Blanco (Universidad Nacional Autonoma de Mexico, México DF, 04510, Mexico), Brian Kemp (University of California, Davis, CA 95616. USA), David Smith (University of California, Davis, CA 95616. USA) and Isabel De la Cruz (Universidad Nacional Autonoma de Mexico, México DF, 04510, Mexico)

[256] *Sex identification of pre-Columbian infants sacrificed to the Aztec rain god in Tlatelolco, Mexico*

Recent excavations of Temple R, dedicated to the Aztec god of wind and rain, Ehecatl-Quetzalcoatl, at the archaeological site of Tlatelolco, recovered the remains of 37 subadults and 6 adults. It is believed that these individuals were sacrificed and buried in a single ceremony that signified the founding of the temple. In two separate laboratories (UNAM and UCD), to insure authenticity, we extracted ancient DNA (aDNA) from the remains and used molecular techniques to identify the sex of the skeletal remains. Most of these sacrificial victims were male children, a trait the Aztecs believe personified Ehecatl-Quetzalcoatl.

González-Tennant, Edward (University of Otago) and Richard Walter (University of Otago)

[27] *Archaeological Windows on Chinese Transnationalism: An Ethnoarchaeological Investigation between New Zealand and South China*

Anthropologists have only recently begun to connect work on Chinese overseas to research among South China emigrant areas. The immense material growth and social change in these areas makes the collection of recent archaeological data problematic. This paper discusses a methodology for gathering meaningful data about household activity areas from <1950s rural China for use in interpreting Chinese Diaspora sites. In particular, the author uses one-of-a-kind historical data about a New Zealand archaeological site to identify emigrant areas in China where ethnographic inquiries are taking place to understand how identity is spatially expressed when Chinese leave home and settle elsewhere.

Goodale, Nathan (Hamilton College), Alissa Nauman (Washington State University), Anna Prentiss (University of Montana) and Ian Kuijt (University of Notre Dame)

[193] *Paleodemography and Cultural Transition: A Macroevolutionary Perspective of Pithouse Village Aggregation and Culture Change in the Interior Pacific Northwest*

The correlation between paleodemography and cultural evolution has been discussed at length in anthropological archaeology. Unfortunately, researchers have a limited understanding of the demographic conditions under which culture change occurs. In this paper we consider evidence from the Upper Columbia Region of the Interior Pacific Northwest. We utilize a macroevolutionary perspective to understand the cycles of formation and abandonment of large pithouse villages over ca. 3400 years. This study suggests that village formation is cyclical in nature and major transitions in human lifeways occurred under low population densities.

Goodale, Nathan [49] see *Kuijt, Ian*

Gooding, Erik [221] see *Holley, George*

Goodman, Dean (Geophysical Archaeometry Lab), Agamemnon Pantel (Polytechnic University of Puerto Rico) and Kent Schneider (Underground Imaging Solutions)

[54] *Discovery and evaluation of subsurface structures at the 2nd oldest building in the New World - the Iglesia San Jose Church - using GPR*

Ground Penetrating Radar has been used on the Iglesia San Jose Church in San Juan, Puerto Rico over several field seasons. The purpose of the remote sensing surveys was to assist in the restoration of this important World Heritage site. In addition to finding older Gothic style foundations beneath the floors in the church, the GPR surveys have revealed the location of lost crypts. The 3D GPR subsurface renders generated for structures beneath the church have also helped to evaluate the deterioration of the foundation in several locations.

Goodman-Elgar, Melissa (Washington State U.)

[244] *Working with earth: Geoarchaeological approached to earthen settlement on the Taraco Peninsula*

This study aimed to characterize earthen building materials, assess excavation contexts and determine post-depositional processes through bulk sediment and micromorphological analyses. Comparison to natural and ethnoarchaeological materials revealed the extent to which Taraco people selected and imported sediments for their dwellings. These sediments are pigmented and fine textured, which contributes to the preservation of archaeological remains associated with them. However, abandoned earthen buildings erode quickly in this semiarid environment and all sites were also disturbed by bioturbation and infilling which poses challenges for architectural reconstruction.

Goodwin, Whitney (College of Wooster)

[47] *Revealing Religious and Political Affiliations through Architecture and Ceramic Production at El Cafetal, Honduras*

El Cafetal, located in the El Paraíso Valley, northwestern Honduras, served as an interaction hub for Maya and non-Maya neighbors during the Classic period. The organization of indoor and outdoor spaces, architectural styles, and forms of domestic production were all heavily influenced by the non-Maya populations in the area. However, as ties to the regional center of Copan and its valley outpost, El Paraíso, strengthened, there were major shifts in the types of construction and the design of architecture used. This presentation examines the connection between regional political shifts, demonstrated by architectural changes, and ceramic production at the site level.

Goodyear, Albert C. [42] see *Smallwood, Ashley M.*

Goralski, Craig (Dept of Anthropology)

[87] *Usulutan Pottery Production and The Uapala Ceramic Sphere*

This paper discusses patterns of production and distribution of Usulutan pottery through the use of Instrumental Neutron Activation Analysis (INAA) compositional data. Over three hundred samples from Late Formative period sites in six regions of Honduras were subjected to INAA at the Smithsonian Institution's National Institute of Standards and Technology (NIST), and their data was compared to NIST's Maya Ceramics Project compositional database. The results shed light on patterns of pottery production and distribution across the Uapala Ceramic Sphere, helping to define the political and economic behaviors that led to the broad similarities in ceramic assemblages seen throughout the sphere.

Gordon, Bryan (Archaeological Surv of Canada)

[62] *The Navajo and Apache are Ancestral Chipewyan Canadians: New Support for Two Routes to the American Southwest*

A millennium-old language link between Canadian and Southwest Dene (Navajo and Apache) is well-known, but Sapir's proposed Southwest Dene cultural layering is forgotten.

Southwest researchers believe Dene adopted Plains pottery and agriculture, becoming sufficiently sedentary to use hogans. But these Dene were originally migratory caribou hunters, changing to bison hunting while moving south. They likely split at the large Rocky Mountain opening from the Plains near Casper, Wyoming. Ancestral Navajo and some Apache entered the mountains and moved southwest, some occupying agricultural areas abandoned due to drought, or used by non-Dene hunter-gatherers. Other Ancestral Apache followed the Plains or Foothills south. Both groups lived in brush shelters and tents, many adopting agriculture or livestock.

Goren-Inbar, Naama [94] see Gaudzinski-Windheuser, Sabine

Goring-Morris, Nigel (Hebrew University), Anna Belfer-Cohen (The Hebrew University of Jerusalem) and Erella Hovers (The Hebrew University of Jerusalem)

[115] *New Perspectives on Near Eastern Epipalaeolithic & Neolithic Groundstone Tools and Installations*

During the course of the Epipalaeolithic and Early Neolithic (PPN) in the Near East the quantities of groundstone tools and installations increase markedly. Concurrently significant typological developments and changes in the composition of such artefacts are documented. Yet, until recently few detailed studies have focused upon the specific contexts in which they were used. The socio-economic roles of these items and their geographic distributions are explored against the backdrop of ethnographic observations.

[276] *Discussant*

Gorka, Tomasz [54] see Fassbinder, Jorg W.E.

Gorman, Elizabeth and Susan E. Blair (University of New Brunswick Fredericton)

[287] *Continuity and Change in Textiles from the Augustine Mound, New Brunswick, Canada*

In the Northeast of North America, perishable fiber and textile technologies are rarely preserved due to the highly acidic soils of the region. As a consequence, the recovery of many partially mineralized organic artifacts from the Augustine Mound, an Early Maritime Woodland cemetery from Metpenagiag Mi'kmaq Nation, in New Brunswick, is remarkable. These artifacts include examples of wood-splint basketry, rush matting, and porcupine quill-work, arts still practiced by Mi'kmaq people. This paper will discuss recent research on the Augustine Mound assemblage, and explore issues of long-term continuity and change in fiber and textile technologies in northeastern North America.

Götz, Christopher (Facultad de Ciencias Antropológicas, Universidad Autónoma de Yucatán)

[77] *Modos alimenticios e identidad, una mirada zooarqueológica desde las tierras bajas mayas del norte*

La ponencia consistirá en la revisión de los modos alimenticios prehispánicos mayas de las tierras bajas del norte desde el punto de vista de la zooarqueología. Se analizarán y contrastarán los perfiles taxonómicos y marcas tafonómicas de materiales zooarqueológicos de los sitios de Chichén Itzá y Sihó, ambos ubicados en Yucatán, México, para así proponer modos de alimentación cárnica específicos de la cultura maya del Clásico en la zona tierra adentro. Los patrones obtenidos se discutirán en específico en términos de la diferenciación socioeconómica entre ambos sitios, pero se abordará también la definición de una dieta maya en sí, frente a otras culturas mesoamericanas.

Gould, Brenda and Nelson Tallio (Nuxalk Nation)

[71] *The Significance of the Thorsen Creek Petroglyph Site*

Although rock art sites are common on the northwest coast of British Columbia they are the least well understood type of archaeological site and have received little academic attention. A detailed archaeological recording and preliminary interpretation of the site was undertaken in 1996. This paper attempts to re-examine the results of this study from the perspective of the indigenous descendants of those who carved the images. In particular the role that the site played in ethnographic Nuxalk secret societies and associated ceremonial practices.

Gould, Brenda [18] see *Hawkes, Wendy L.*

Gould, Dell [311] see *Luhman, Hope E.*

Gould, Richard (Brown University)

[70] *Training and Reality in Disaster Archaeology*

The primary goal of effective training is always to offer trainees the best possible approximation of what it will be like to perform controlled recoveries under actual – often extreme -- field conditions. Such training must be conducted within a scientific framework that will permit evaluation of the results, even if the conditions are less than laboratory-like. This paper briefly reviews field exercises conducted to “train out” issues that arose during actual deployments by Forensic Archaeology Recovery (FAR) and see to what extent it would be possible to accomplish effective results under extreme conditions. Cases include a terrorist car bomb (real bomb, simulated terrorist), a night exhumation, and a combined land and underwater recovery of a wrecked aircraft.

Goycochea, Elena [13] see *Cock, Guillermo A* ;[131] see *Murphy, Melissa S.*

Graesch, Anthony (UCLA Dept of Anthropology), David Schaepe (University of British Columbia / Sto:lo Research & Resource Management Centre) and Jeanne Arnold (UCLA Dept. of Anthropology)

[52] *Late and Contact Period Sto:lo (Coast Salish) Communities in the Upper Fraser Valley*
Sto:lo communities in the upper Fraser Valley of southwestern British Columbia underwent profound organizational changes in the late pre-colonial and early colonial eras. A synthesis of data derived from recent village- and household-level investigations affords new insights into household labor organization, rules of residential affiliation, settlement population, and engagement in the broader economy before and after British settlement on the interior margin of the Central Northwest Coast. We present data from three Late and Contact period pithouse and/or plank-house villages along the salmon-rich Fraser River, each associated with known Sto:lo placenames and the focus of an ongoing investigation.

[52] *Co-Organizer*

Graesch, Anthony [174] see *Arnold, Jeanne E.*

Graf, Kelly (University of Nevada, Reno)

[245] *Upper Paleolithic Technological Provisioning Strategies and Land-Use in South-Central Siberia*

Siberia's Pleistocene environments likely played a central role in decisions human foragers made while procuring resources. As with subsistence organization, Siberian Upper Paleolithic technological organization changed to accommodate these choices. Human response to dramatic changes in climate and subsequent reorganization of food resources before, during, and after the LGM should be reflected in the Siberian lithic record. This paper will examine technological changes, specifically related to provisioning strategies and land-use, at several MUP and LUP sites found in the Enisei River basin of south-central Siberia to characterize human response to resource shifts from about 30,000-12,000 B.P.

Graf, Kelly [249] see *Louderback, Lisbeth*

Graham, Elizabeth (Institute of Archaeology)

[134] *Socially Sanctioned Killing in America, Then and Now*

Almost all societies sanction the killing of human beings in special circumstances. The forms such sanctioning takes are strikingly similar cross-culturally: euthanasia, abortion, war, or the death penalty. Some societies sanction more than one of these options, but the most widely acceptable form of socially sanctioned killing, in our own time and in times past, is war. I shall examine how individuals in societies such as ours come to accept and to justify the killing of human beings, sometimes on a daily basis, as war, and the insight this rationalizing behaviour provides into socially sanctioned in ancient Mesoamerica.

Graham, Elizabeth [257] see Howie, Linda

Graham, Russell [224] see Stafford, Thomas W.

Graham, Tyler (South Puget Sound Community College), Jason Channel (South Puget Sound Community College) and Mike Silva (South Puget Sound Community College)

[188] *Woodworking at Northwest Wet Sites - Analytical and Experimental Archaeology with Adzes, Wedges and Mauls*

Woodworking was an important part of life to Pacific Northwest Native Americans. Outlined are processes used to replicate adzes, mauls and wedges. Experimental archaeology was employed to learn about the use of the adze for wood carving and the maul and wedge for making cedar planks. A comparison has been made between woodchips and split wood produced with those excavated at Qwu?gwes and Sauvie Island.

Grant, Sarah [173] see O'Connell, James F.

Grant, William (DePaul University)

[63] *Symmetry was for Rebels: A Descriptive Comparison of Southeastern United States and Bahamian Loyalist Plantation Design*

The Revolutionary War forced British Loyalists and their slaves to relocate from the United States to the Bahamas. They constructed plantations throughout the archipelago, changing the geographic and cultural landscape of the British colony. These plantations did not directly reflect models from the Southeastern United States and were unique cultural expressions of late 18th and early 19th century plantation design. This suggests that the island environment and the cultural sensibilities of the Loyalists required the adaptation of mainland models. After descriptive analysis of fifteen U.S. and ten Bahamian plantations, this paper explores environmental and cultural explanations for variation among them.

Grave, Alfonso (INAH)

[198] *La explotación de moluscos de concha en el sur de Sinaloa*

Desde la mas temprana ocupación del sur de Sinaloa fueron explotados los moluscos de concha en sus extensos esteros. Esto se manifiesta en la presencia de conchas en muchos de los sitios arqueológicos registrados. Sin embargo, a partir del 750 DC hay un considerable aumento en la explotación de este recurso lo que se demuestra en los mas de 500 concheros reportados hasta ahora en el área de Marismas Nacionales, Zona compartida por los estados de Sinaloa y Nayarit. Posteriormente, al final de la ocupación prehispánica hay una disminución en la recolección de moluscos, aunque luego, durante la colonia hay otro auge en el consumo y comercialización de los recursos del estero.

Graves, Michael (Univ of New Mexico), Jason Espiritu, Julie Field (Ohio State University) and Mark Oxley

[33] *Agricultural Production and Lithic Distribution in Pololu Valley, North Kohala, Hawaii Island*

Combining archived archaeological data with analyses of charcoal and lithic materials from Pololu Valley, Hawai'i Island, we have new evidence regarding the chronology of agricultural development and changing sources for basalt artifacts. One of a few windward valleys on Hawai'i to be studied, Pololu was occupied as early as the 12th century AD. Agricultural production utilized both dry and wet terrace complexes, some stratigraphically linked, and now with AMS radiocarbon dates. Lithic materials were recovered throughout the valley and geochemical analyses document a shift from local, possibly dispersed sources, to local quarry materials, and finally to non-local resources.

[199] Discussant

Graves, Michael [33] see Ladefoged, Thegn; **[156]** see Oxley, Mark W.; **[33]** see Stephen, Jesse W

Graves, Michael W. [33] see McCoy, Mark D.

Graves, William (Statistical Research, Inc.)

[304] *Trash Deposition, Feature Fill, and the Nature of Settlement and Community at Queen Creek*

Excavations at seven sites have yielded a wealth of data concerning trash deposition and the character of feature fill in contexts dating from the Early Agricultural Period through the Preclassic Period. These data allow us to examine issues concerning the nature of settlement and community throughout this long period. In this paper, I examine artifact and volumetric data from features and fill to examine occupation duration and intensity and variation in site activities through time. Using these data, we can begin to reconstruct changes in settlement and community which may have taken place with the shift to a domestication economy.

Gray, Brendan

[295] *Methodological considerations of excavating longhouses on the Northwest Coast*

Excavating Northwest Coast longhouses is complicated because vast quantities of organic remains and artifacts preserve well in shell middens. The resulting "data overload" necessitates a carefully designed sampling strategy. Extensive excavations from the Ozette archaeological site have produced enormous quantities of data from entire house floors. A sampling simulation of this data, in which subsamples are selected in order to evaluate various sampling designs, may help provide guidelines for future excavations of longhouses. This research has implications for methods and interpretations of hierarchy and social organization within the context of Northwest Coast household archaeology.

Gray, Nadine (Simon Fraser University)

[133] *Recent Research at a Pithouse Village (EeRb 77) in Secwepemc Territory, British Columbia*

This paper discusses recent archaeological research at the pithouse village of EeRb 77 on the north shore of the South Thompson River in Kamloops, British Columbia. This multi-component site is significant as it is the only well-preserved housepit village still existing in the Kamloops area and previous research adjacent to the village site provided evidence of long-term and relatively continuous flood plain occupation extending to 7,000 years ago. This season's excavations concentrated on three cultural depressions within the village settlement and revealed new information about the Late Period occupation at the site.

[234] *see Dell, Rachel C.*

Grayson, Donald (University of Washington) and Lisbeth A. Louderback (University of Washington)

[57] *The Great Basin of Western North America*

From a human perspective, the Great Basin (the area of internal drainage in the arid western United States) was an unfriendly place during the Middle Holocene. Virtually all paleoclimatic indicators—lake levels, lake chemistries, treelines, plant community composition, and small mammal histories—show that this was generally a time of elevated temperatures and unfavorable precipitation/evaporation ratios. The frequency structure of radiocarbon dated archaeological sites through time suggests that human population densities in many parts of the Great Basin dropped substantially in response to this climatic regime, although other details of this response remain unclear.

[278] *Discussant*

Grayson, Nicci (Natural History Museum) and Karen Wise (Natural History Museum of Los Angeles County)

[312] *Kilometer 4 Archaeological Sequence*

Kilometer 4 is one of the best documented and longest occupied Preceramic Period archaeological sites on the Andean coast. Forty-two 14C dates from shell and charcoal remains from domestic features, burials and shell middens document a 9000 year occupation, between 10,000 to 1000 BC. The dates, along with archaeological analyses, indicate changes through time in subsistence, settlement and mortuary patterns. Questions remain, however. Some variations may be due to contemporaneous variation rather than temporal differences. Also, during the Late Archaic Period in particular, re-use of wood (the "old wood problem"?") may obscure fine-grained temporal differences.

Green, Debra (University of Illinois, Chicago) and Daniel E. Lestarjette (University of Illinois at Chicago)

[169] *Late Holocene Land-Use and Lithic Procurement Strategies of Foraging Groups in the Tanjay River Drainage Basin, Philippines.*

Previous investigations in the Tanjay Region determined differences in lithic assemblages between lowland and upland hunter-gatherer sites associated with an increase in maritime and riverine trade. This poster examines raw material procurement of chipped stone resources in the Tanjay Basin. A hypothesis is developed, focusing on changes in the use of lithic resources, land-use strategies, and coastal progradation.

Green, Gregory G. [11] see Marler, Ben**Green, Kelsey (Ripon College) and William Whitehead (Ripon College)**

[88] *Paleoethnobotany of Ritual Space at Tiwanaku*

Results of paleoethnobotanical analysis will be presented for the site of Tiwanaku, Tiwanaku, Bolivia, a middle horizon site on the Altiplano. Tiwanaku is the primary administrative, ritual, and economic hub for the Tiwanaku culture, and the use of plant materials was of paramount importance in all aspects of Tiwanaku daily life. Species representation, ecological data, and potential economic and ritual importance will be presented in this poster.

Green, Margerie (Archaeological Consulting Services) [38] Discussant**Green, Rachelle**

[214] *The Mojo Site – Preliminary Test Excavation Results of a Complex Fremont Habitation Site*

The Mojo site (42Em19) is one of the largest and most complex Fremont habitation areas within Range Creek Canyon located within the Book Cliffs in central Utah. This site is composed of multiple coherent rock alignments, areas of charcoal stained soil and numerous diagnostic artifacts. Of these numerous features a coherent circular rock alignment, a coherent rectangular rock alignment, and an area of surface stained soil were test excavated over a period of eleven days during the summer of 2007. This poster will present preliminary test excavation results and what they reveal about the Fremont living on the Colorado Plateau.

Green, Ulrike (University of California San Diego)

[147] *The Nature of Wari Presence in the mid-Moquegua Valley: Domestic Contexts at Cerro Trapiche*

Discussion of the Middle Horizon period in the Moquegua valley has been dominated by a focus on Tiwanaku and Wari settlements. Specifically, Wari influence has been evidenced via the impressive center of Cerro Baúl. This paper discusses research at the site of Cerro Trapiche, a smaller, less studied Wari site in the mid-Moquegua valley, which suggests a number of approaches for understanding Wari both at the site and regional level. New data from Trapiche domestic contexts will be used to address interaction between Wari colonists and local populations at the site and to compare Wari strategies in the Moquegua valley.

Green, William (Logan Museum of Anthropology) and Nicolette Meister (Logan Museum of Anthropology, Beloit College)

[65] *The Logan Museum of Anthropology's Collections Accessibility Project: A Multi-phase Approach to Improving Preservation and Access*

Beloit College's Logan Museum of Anthropology houses systematic and nonsystematic archaeological and ethnographic collections from around the world. Overcrowding, incomplete registration, and substandard storage facilities inhibited accessibility and use and posed preservation risks. We are implementing a multi-phase collections accessibility project to remedy these problems. The project has included internal and external assessments, staff and student training, consultation with an objects conservator, and grant-funded rehousing of collections. NEH funding has been a key to improving physical and intellectual access to our collections. This project models one way of addressing the "curation crisis."

Greene, Alan (University of Chicago Department of Anthropology)

[309] *More Than Skin Deep: A Practice-Oriented Approach to Building Ceramic Typologies in the South Caucasus*

Ceramic ware typologies traditionally rely on vessel form and decoration, which have been essential tools of discrimination since the earliest antiquarian and archaeological research. However, recent developments in material studies and practice theory suggest that vessel structural attributes such as clay preparation, firing temperature, and formation technique should play an equal role in determining the parameters that distinguish one vessel type from another. In this study of ceramic materials from Late Bronze Age Armenia, traditional ceramic data has been coupled with digital radiographic imagery to achieve a more practice-centered local pottery typology.

Greene, Alan [176] see Marshall, Maureen E.

Greenlee, Diana

[11] *A New Look at Historic Impacts on Poverty Point's Old Landscape*

The Poverty Point archaeological site is a spectacular earthen complex with six mounds, six concentric, semi-elliptical ridges and a large plaza in northeast Louisiana. With primary construction and occupation ca. 1700 – 1100 BC, it was the largest and most culturally elaborate settlement of its time in North America. Although of archaeological interest for over 100 years, many questions about Poverty Point's landscape remain. Indeed, the closer one looks, the more complex it appears. This poster summarizes recent research into the impact of historic activities on the physical landscape at Poverty Point.

Greer, John (Greer Services) and Mavis Greer (Greer Services, Casper, WY)

[225] *Ritual Cave Use on the Northwestern Plains, Montana and Wyoming, USA*

Ritual cave use on the Northwestern Plains is evidenced by distinctive rock art and artifacts, micro-botanical remains, complete painting of the cave, use of special settings, and cave modification. Ritual use consists of shamanism activity, vision quests, and personal or group ceremony and is distinct from daily subsistence use or biographic recording. Activity in the western mountains utilized all kinds of sites, from open bluffs to enclosed caves, while central and eastern areas more commonly utilized enclosed cave rooms, dark zone settings, and deeper cave-like rockshelters.

Greer, John [71] see Greer, Mavis

Greer, Mavis (Greer Services) and John Greer (Greer Services, Casper, WY)

[71] *Weaponry in Northwestern Plains Rock Art of North America*

Weapons are often shown with humans and animals in northwestern Plains rock art, and panel context suggests uses related to hunting, warfare, and ceremony. Bows occur with humans in both hunting and warfare scenes, while lances are usually portrayed with less action and in ceremonial contexts. Guns are rare (and late), and spears-atlats are seldom shown. Stylistic variation in weaponry relates to time depth and provides insight into different cultures using this geographical area for different functions. Scenes with weapons provide information on status within a culture as well as intercultural relations and can be clues to territorial control.

Greer, Mavis [225] see Greer, John

Gregg, Michael (University of Toronto), Edward Banning (Department of Anthropology, University of Toronto), Greg Slater (School of Geography and Earth Sciences, McMaster University) and Kevin Gibbs (Department of Anthropology, University of Toronto)

[86] *Subsistence practices and pottery use in Neolithic Jordan:molecular and isotopic evidence*

This paper presents direct evidence for the stewing of meat in pottery vessels during the late Neolithic of northern Jordan. Organic residue analysis has revealed $\delta^{13}\text{C}$ isotope ratios consistent with modern adipose fats of wild boar and domesticated sheep and goats

from the Jordan Valley. Measurable concentrations of C16:0 and C18:0 fatty acids were obtained through a protocol developed for the extraction of fatty acids from marine sediments. Results will be discussed in context of differences in survival of organic compounds in the Middle East and Europe, and implications for the study of subsistence practices originating in the Fertile Crescent.

Grier, Colin

[15] *The Politics of Expansion: Settlement Change in the Southern Gulf Islands, British Columbia, Canada*

Increasing archaeological evidence suggests that the prehistoric Gulf of Georgia underwent relatively rapid changes in economic, social and political organization in the few centuries following 2000 BP. Tied to the period identified as Marpole, these changes appear to reflect shifts in resource exploitation, increasing intensity of social engagement across the region, and, at the household level, a significant re-organization of labour. This paper explores the interplay of population shifts, settlement expansion, village formation and household changes in the context of developments on the sociopolitical landscape in the southern Gulf Islands of coastal British Columbia between 2000 and 1500 years ago.

[15] Co-Organizer [15] Chair

Grier, Colin [295] see McLay, Eric

Griffin, Arthur (Cotsen Institute of Archaeology At UCLA) and Charles Stanish (Cotsen Institute of Archaeology, University of California, Los Angeles, CA)

[137] *Emergent patterns of political consolidation in agent-based model simulations of pre-Inca Andean cultures*

We present simulation results from an agent-based model of the late prehistoric period circa 2500 BC to AD 1000 in the Lake Titicaca basin of Peru and Bolivia. The model consists of a grid of cells representing the geography, hydrology, and agricultural potential of the 50,000 sq. km basin. A collection of multiple agents -Settlements, Peoples, Polities, and Chiefs (political leaders)- interact with each other and with the environment to produce a spectrum of alternative prehistories. Emergent patterns of simulated political consolidation are compared to archaeological record of the Titicaca basin during the corresponding time period.

Griffin, Dennis (Oregon State Historic Preservation Ofice)

[107] *We Will Not Protect What We Don't Respect: The Evolution of Cultural Resource Law and Regulations in Oregon State*

Beginning in 1906 with the passage of the Antiquities Act the Federal government began to recognize and protect sites of cultural importance to our nation. Individual states followed suit based on events and concerns prevalent in their area. This paper traces the evolution of cultural resource protection in Oregon from the passage of its first archaeological permitting law in 1935 to the present. The issues, lobbies and local events behind the changes in state regulations are examined and compared to that occurring on the national level.

Griffin, Robert [158] see Dunning, Nicholas P.

Griffith, Cameron (Indiana University)

[102] *Spatial Analysis of the Cavescape in the Macal Valley, Belize*

The subterranean setting is comprised of natural geological and speleological phenomena, whereas the cavescape, in the context of ancient Maya people who used caves, is a combination of this natural physical space and the culturally derived built environment. The focus of this paper is GIS data analysis conducted on cave sites in the Macal Valley designed to elucidate spatial patterns and their associated explanatory phenomena. Some of the transforms affecting the assemblages in these cave sites are the result of natural processes, whereas others are due to formalized and structured intentions related to both functional requirements and ritual practice.

Griffitts, Janet (SRI) and Jennifer Waters (Desert Archaeology)

[304] *Hunting Practices and Faunal Subsistence Patterns during the Forager-Farmer Transition in Southern Arizona*

Excavations at Finch Camp (AZ U:11:7 [ASM]) produced one of the largest and best dated non-riverine Cienega and Red Mountain phase faunal collections recovered from the Queen Creek Region. Leporid and artiodactyl remains dominate the faunal assemblage, and many rodent taxa are also represented. Comparable faunal collections have been recovered from contemporary, riverine contexts in the Tucson Basin. The Finch Camp fauna allow a detailed reconstruction of subsistence and hunting strategies in the Queen Creek region, along with comparison of hunting and subsistence in riverine and non-riverine settings during the forager-farmer transition in southern Arizona.

Grimes, Vaughan (Max Planck Institute for Evolutionary Anthropology), Maura Pellegrini (Institute of Agro-Environmental and Forest Biology, IBAF CNR Porano (TR, Italy)), Michael Richards (Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology) and Thomas Tütken (Institut für Geowissenschaften, Abteilung für angewandte und analytische)

[35] *A comparison of pretreatment and silver phosphate (Ag₃PO₄) precipitation methods: implications for the analysis of phosphate oxygen isotope ratios in bioapatite*

Here we present the results of an experiment in which chemical and thermal pretreatment techniques and several silver phosphate (Ag₃PO₄) precipitation methods were tested using a range of biogenic phosphate materials. The $\delta^{18}\text{Op}$ results showed considerable variation between pretreatment methods and precipitation techniques, particularly on bone samples with a range of up to 4.9‰. We will discuss reasons for the large $\delta^{18}\text{Op}$ variation and suggest that interpretations based on different methods must be made with caution.

Grimes, Vaughan [117] see Britton, Kate H.; [309] see Smith, Colin I.; [218] see Copeland, Sandi R.

Grimm, Eric (Illinois State Museum)

[143] *Vegetation and Climate Changes in the Midwestern United States during the Bølling-Allerød and Younger Dryas Chronozones*

In the Midwestern United States, the Bølling-Allerød and Younger Dryas chronozone boundaries were marked by distinctive, albeit non-analog, vegetation. In the vicinity of the Great Lakes, especially in northeastern Illinois, marked vegetation changes were coeval with the chronozone boundaries. Farther from the Great Lakes, vegetation changes were less marked, although climate change is evident in other proxies. Climate during Bølling-Allerød was warmer and very wet. Climate cooled during the Younger Dryas as the Laurentide ice sheet readvanced to the Marquette moraine; the moisture balance is still in question.

Grimm, Linda and Todd Koetje (Western Washington University)

[269] *Patterns of Technological Organization in the Beaurennian at Solvieux*

The Beaurennian has been interpreted as a typologically enigmatic industry with no clear parallels among the IUP blade industries of southwestern France. We seek to explore the taxonomic position of this industry by extending study to technological patterns of the full lithic inventory of tools and debitage in a methodological framework that combines refitting and quantitative attribute analysis of flint knapping domains as specified by Tostevin. These preliminary steps toward the definition of a Beaurennian technological style provide a basis for systematic comparison with regional industries and potential resolution of the cultural affinities of this industry.

Grimm, Linda [295] see Koetje, Todd A.

Grimstead, Deanna (University of Arizona) and Amanda Reynolds (The University of Arizona)

[46] *Spatial and Temporal Patterns of Resource Intensification from 87Sr/86Sr ratios of Archaeofauna derived from Chaco Canyon, New Mexico.*

This paper identifies spatial patterns of resource procurement, via 87Sr/86Sr ratios, to evaluate hypothesized resource intensification precipitating from population aggregation

within Chaco Canyon, New Mexico (~A.D. 700 – A.D. 1200). The authors hypothesize that as human populations increased, prey choices broadened to include a variety of small prey, while the lack of local large prey forced an increase in the distance traveled for procurement. $^{87}\text{Sr}/^{86}\text{Sr}$ ratios derived from cottontails show highly constrained $^{87}\text{Sr}/^{86}\text{Sr}$ ratios throughout the sequence, suggesting local habitat procurement. Deer show a pattern consistent with intensified non-local procurement strategies, visible via an increase in $^{87}\text{Sr}/^{86}\text{Sr}$ ratio variability through time.

Gröcke, Darren [172] see Szpak, Paul

Grofe, Michael (University of California At Davis)

[79] *The Names of GI from the Palenque Triad: A Classic Period Venus Deity*

The portrait of GI from the Palenque Triad consistently appears with the same attributive glyph collocation in Palenque, whereas a different series of glyphs form the title of GI in several examples from the Early Classic. Thus far, both the name and title of GI have remained insufficiently deciphered. In this paper, I propose new translations of these names that are highly productive and semantically consistent with the established function of GI as a deity of Venus. These proposed readings provide additional evidence for the close relationship between GI, Hunahpu from the Popol Vuh, and the Central Mexican Quetzalcoatl.

Gronenborn, Detlef (Roemisch-Germanisches Zentralmuseum)

[76] *Insignia of Authority in pre-Islamic Hausaland: The High Status Burial Site of Durbi Takusheyi in Northern Nigeria*

The 13th/14th century AD burial site of Durbi Takusheyi in present-day Katsina State, Nigeria, is a complex of at least eight burial mounds. Three mounds have been tested in 1992; they produced high-status burials of one individual each with elaborate grave goods of local production but also imported objects from the wider Islamic world. Due to its chronological position Takusheyi may be linked with legends on early Hausa polity formation and thus is an archaeological marker of the transitional phase to medieval Islamic state-level societies in the west-central bilad al-sudan.

Grønnow, Bjarne (SILA - The Greenland Research Centre at the National Museum of Denmark)

[17] *The Thule-'window' in North East Greenland: New Discoveries by the GeoArk Project*

Environmental and demographical processes sometimes interplayed and thus opened 'windows' for human settlement in the High Arctic zone of East Greenland. During the International Polar Year the interdisciplinary GeoArk-project aims at exploring the background of the 'rise and fall' of the Thule Culture from c. 1400 AD to 1823 AD, when Inuit were met for the first and last time in North East Greenland by Europeans.

Groot, Maaike (Archeologisch Centrum Vrije Universiteit)

[296] *Choice and Specialisation in Animal Husbandry in a Roman frontier zone*

With the arrival of the Roman army and the start of urbanisation in the Dutch River Area came the opportunity for rural communities to sell their produce at market. How communities managed to produce a surplus forms the topic of this paper. Animal bone studies demonstrate differential specialisation between settlements. Differences may also have occurred at household level. At the same time, chronological changes can be observed. This paper will present the evidence from two large-scale excavations of rural settlements, and discuss the choices in animal husbandry that were available to the rural communities of the Dutch River Area.

Grosman, Leore (The Hebrew University & Weizmann Institute of Science)

[143] *A Multivariable Simulation of the Younger Dryas Episode and the Natufian Entity at the Southern Levant*

A crucial question concerning the transformation to food production in the Near East is the weight of the Younger Dryas climatic episode in this process. A computer simulation was built in order to have a tool for examining current models. The simulation is structured around the Natufian entity (15,000-11,500 calBP) in the Southern Levant and focuses on

the presumed early phases of recourse to agriculture. The climate proxy data integrated in the simulation model show that direct regional climatic changes influenced the change in the subsistence mode in general only to a limited extent.

Grosman, Leore [22] see *Shelach, Gideon*

Gross, Charlane (EDAW Inc.)

[82] *An Osteological and Comparative Assessment of the Los Angeles City Cemetery Burial Population*

Interments recovered from City Cemetery represent an urban segment of the Los Angeles population from the latter half of the 19th Century. Although many of the skeletons were fragmentary, osteological data gathered during the field effort has given us the opportunity to learn about health patterns reflected in the City Cemetery burial population. The data, presumed to be representative of the population as a whole, will be compared to other urban cemetery populations from the same time period.

Gross, Timothy (Affinis)

[80] *Archaic and Late Prehistoric occupations in foothill San Diego County*

Archaic remains from the San Diego area are best known from the coast where shell middens are a prominent part of the archaeological landscape. Away from the coast Archaic sites have not been identified nearly so often. Excavations at some inland sites suggest that Archaic components can go unnoticed on some large sites, being overwhelmed by the material from later occupation. Based on experience at several inland sites, the problems and prospects for identifying Archaic assemblages are discussed.

Grossman, Ethan [202] see *Bartelink, Eric J.*

Grossman, Kathryn (University of Chicago) and Jesse Casana (University of Arkansas)

[315] *There's Something Fishy About Tell Qarqur: Environment and Economy in the Ghab Basin, Syria*

Until the 1950's-1960's, when irrigation projects drained the wetlands of the Ghab Basin in Syria, the area supported a range of marsh-dwelling animals. The medieval Arab geographer Abu al-Fida recorded vast flocks of birds and a lush environment in the Ghab, and zooarchaeological data suggest the presence of wetland fauna as early as the third millennium BC. This paper presents the results of zooarchaeological work at Tell Qarqur in the Ghab Basin. The faunal assemblage demonstrates that wildlife from nearby marshes supplemented the normal "suite" of Near Eastern food animals (cows, pigs, sheep, and goats), especially in the medieval period.

Grove, Matt (Royal Holloway, University of London) and James Steele (AHRC CECD, Institute of Archaeology, University College London)

[29] *Characterizing forager movement patterns: ethnographic and archaeological examples*
We explore the hypothesis that forager movement patterns correspond to Lévy walks, analysing ethnographic and archaeological data relating to intersite movement and raw material transfer distances. Initially, various hypothetical distributions are fitted to univariate data; following this exercise, the best fit distributions are employed as bivariate kernels for the mapping of land use intensities. The latter procedure leads to a consideration of turning angles between walk segments, distributions of which have often been assumed rather than tested. Taken together, our analyses aim to provide a fuller understanding of the applications of existing model distributions to archaeological data.

Gruber, Janna (University of Oklahoma)

[162] *Measuring Mimbres Populational Health Status During The Pithouse to Pueblo Transition*

This presentation will focus on the measurement of the human biological responses to environmental and biological stressors experienced by Mimbres populations during the pithouse to pueblo transition (about A.D. 900 -1130). This transition is a time when a number of cultural and environmental changes were taking place in the Mimbres River

Valley in southwestern New Mexico. The reconstruction of Mimbres health and disease patterns during this period can give an overall view of Mimbres life, health, workload and can specifically identify the effects of the cultural decisions made by Mimbres populations at this time.

Gruber, M.A., RPA, Thomas (University of Oklahoma)

[285] *Differential Social Interaction: The Regional Diversity of Boldface Bowl Design in the Mimbres Region A.D. 750-900*

Artistic expression, like language, has an infinite number of combinations, but as with spoken language artistic expression only uses a finite number of design combinations to produce a meaningful expression. The designs that are used come from a lexicon that is deemed acceptable by the artist's culture and by individual invention. In this paper I will present data that identify isochrestic designs and emblemic designs on Mimbres Boldface Bowls (A.D. 750-900). By isolating these designs I will show that the people within the Mimbres River Valley maintained a different relationship with people outside of the valley than with each other.

Gudiño, Alejandra M. [37] see Lippi, Ronald D.

Guenther, Marissa (Center for Archaeological Research)

[278] *Bison Jump? A Fresh Approach to Future Investigations at the Wasden Site*

Although previous researchers have argued that Owl Cave was utilized as a bison jump roughly 9000 years ago, this supposition has yet to be demonstrated. Because portions of the bone bed remain intact, future investigations will focus on determining the function of these natural trap features and enhance our understanding of the bone layer. A high-resolution GIS digital elevation model will also be generated. Information regarding slope, hydrology, and landscape visibility can then be used to predict potential drive lanes. These applications, in addition to zooarchaeological analyses, will be used to interpret the validity of the bison jump hypothesis.

Guernsey, Julia (University Of Texas At Austin)

[136] *Lessons from the Preclassic Pacific Slope*

This paper explores several themes that recur in the art and iconography of the Preclassic period, particularly along the Pacific slope of Guatemala, and considers them in light of the major contributions made by Stone to the study of Classic Maya art. Using methods utilized by Stone, this paper considers both the continuities between specific motifs from the Preclassic and Classic periods while also taking into consideration unique contextual circumstances that point to subtle shifts in meaning at the hands of elites at individual sites.

Guerra, Jenny (National Museum of Archaeology and Ethnology)

[102] *Accessing Ritual: An Analysis of Architectural Features in Ancient Maya Caves*

Although a substantial amount of archaeological research has been carried out on Maya religious ritual uses in caves, these studies have placed a considerable focus on interpretations based on ethnohistoric, ethnographic, and modern activities documented at cave sites. A recent literature review of cave investigations conducted in Guatemala, Belize, and Mexico, however, has revealed that subterranean architectural features,, were consistently constructed and used among the Maya during pre-Hispanic times. The variable location and distribution of architectural modification within caves demonstrate that they were important in emphasizing the sanctity of a space that was already considered sacred.

Guerra, Monica, Chris Dixon and Payson Sheets

[41] *Geophysical Investigation at Joya de Cerén Sur*

The 2007 field investigation at Joya de Cerén involved the employment of the ground penetrating radar (GPR). Two grid regions were covered with the geophysical instrumentation; Grid 1 was set up as a 50m by 80m survey and Grid 2 as a 50m by 17m survey. The intent of the geophysical investigation was to distinguish if the GPR equipment could provide subsurface images of the Classic Period ancient Mayan living surface. Forward modeling and processing and analysis of real data have identified features that appear to be agricultural ridges, corresponding with discoveries of test pit excavations.

Guerra, Rafael (Institute of Archaeology), Bruce Minkin (Western Belize Regional Cave Project), Gabriel Wrobel (University of Mississippi) and Jaime Awe (Belize Institute of Archaeology)

[102] *The Contexts of Ancient Maya Human Remains in the Caves of the Roaring Creek Valley Belize: Implications for pre-Hispanic Maya Cave Ritual.*

During the last two decades the WBRCP has applied a regional approach to the study of ritual cave use by the ancient Maya of the Roaring Creek Valley, Belize. Data collected by our investigations have noted that the patterns of deposition of human remains differ significantly between rockshelters and caves, and of preferences for particular landscapes within the latter. This paper describes the contexts in which these human remains have been discovered and discusses their implications for pre-Hispanic Maya cave rituals.

Guerrero, Emma (University of Notre Dame), Ian Kuijt (University of Notre Dame), Josep Anfruns (University Autonoma of Barcelona-Spain), Mark Schurr (University of Notre Dame) and Miquel Molist (University Autonoma of Barcelona (Spain))

[161] *New Perspectives on Neolithic Inequality: Mortuary and Isotopic Research at Tell Halula, Syria*

Despite considerable previous research, archaeologists have only a limited understanding of the process and trajectory of emerging social inequality in early Neolithic villages. In this presentation we present the results of new isotopic research on well-dated human burials recovered from Tell Halula, and compare these to detailed mortuary analysis of, basically, associated grave goods. Analysis of these materials highlights distinct practices that appear to be community specific, and other practices that are part of a broader regional system of burial. These results force us to reconsider traditional views of emerging social inequality within early Neolithic villages.

Gullapalli, Praveena (Rhode Island College)

[96] *Early Metal in South India: Copper and Iron in Megalithic Contexts*

In South India early metal artifacts, usually associated with megalithic sites, include both copper and iron. Although in some cases copper artifacts predate those of iron, there is no evidence of an extensive metallurgical tradition based on copper and its alloys. Typological studies have had limited success in explaining the megalithic sites and the production and consumption of metal, while other approaches have not explicitly addressed the social contexts of metal production. Understanding the role of metal production and consumption in megalithic contexts means reevaluating traditional paradigms about the nature of these sites and about how metal technologies develop.

Gullov, Hans-Christian (National Museum of Denmark)

[17] *Thule culture subsistence economy and the diet*

New investigations during the IPY initiative "GeoArk" will uncover why NE Greenland Thule seemed more terrestrial than contemporary W Greenland Thule.

[17] *Co-Organizer [17] Chair*

Gumerman, George [232] Discussant [299] Chair

Gumí, Maria Eugenia [74] see Filloy, Laura

Gunn, Christopher [203] see Andrews, E. Wyllys

Gurr, Neil [33] see Addison, David J.

Gusev, Sergey [17] see Odess, Daniel

Gusick, Amy (University of California, Santa Barbara)

[152] *Prehistoric Fishing Practices on Santa Cruz Island*

Much research on the evolution of fishing within the Santa Barbara Channel region has attempted to decipher the relationship between the development of social complexity and

technological advancements with environmental and ecological factors. Beginning in the terminal Middle Period, the evolution in the design of fishhooks, the introduction of the plank canoe and environmental variation all coincide with major changes in subsistence strategies. In order to distinguish the greatest contributing factor to these changes, I analyze temporal variations in fish species found at a site on Santa Cruz Island and relate these changes to technological and environmental factors.

[152] *Co-Organizer*

Gusick, Amy [243] see Voorhies, Barbara

Guthrie, Caitlin

[47] *Censers and Domestic Ritual at Calixtlahuaca*

This poster discusses censers excavated at the site of Calixtlahuaca, an important city in central Mexico during the Postclassic period. Censer sherds are abundant in domestic contexts, but they are absent in burials. I describe an analysis of attributes of form and size, which leads to inferences on the use and significance of censers at the site. Most censers are decorated with small spikes, and I compare these to spiked censers from other contexts in Mesoamerica. Calixtlahuaca is the only central Mexican site in which spiked censers were the dominant kind of domestic ritual object.

Gutierrez, Maria (CONICET), Agustina Massigoge (CONICET - Facultad de Ciencias Sociales (UNCPBA)), Cristian Kaufmann (CONICET - Facultad de Ciencias Sociales (UNCPBA)), María Alvarez (CIC - Facultad de Ciencias Sociales (UNCPBA)) and Mariela González (CONICET - Facultad de Ciencias Sociales (UNCPBA))

[117] *Comparative Study Of Bone Mineralization In Guanaco (Lama Guanicoe).*

Implications For Differential Preservation In Archaeological Sites

Zooarchaeologists frequently analyze skeletal parts representation and mortality profiles to evaluate human economic decisions. Different taphonomic processes are mediated by bone mineral density causing the under representation of certain skeletal parts and younger age groups. The aim of this paper is to present a bone mineralization curve for guanaco (*Lama guanicoe*) considering the ontogenetic development of the species. Densitometric analyses of guanaco bones from six age classes have been conducted. The purpose of this analysis is to evaluate the mineralization process along the life span of the guanaco and to explore if there is a bias against younger individuals due to differences in bone mineral content.

Gutiérrez, María de la Luz (Instituto Nacional de Antropología e Historia)

[225] *Más Allá del Umbral: Muerte y Duelo en la Prehistoria de Baja California Central, México*

Uno de los aspectos menos conocidos de la prehistoria de Baja California central es aquel que se refiere a las costumbres funerarias practicadas por los Yumanos Peninsulares. En las sierras de San Francisco y Guadalupe, BCS, solo se han investigado siete cuevas funerarias, muy pocas considerando la extensión de esta región cultural. La ponencia expondrá los avances de esta investigación y algunas reflexiones en torno a las técnicas de enterramiento, los contextos generales y particulares y evidencia que sugiere la importancia que tuvo para estos pueblos, la veneración de sus muertos, sus ancestros y sus cuevas, fuesen mortuorias o no.

[32] *see Hernandez Llosas, Maria Isabel*

Gutierrez Mendoza, Gerardo (CIESAS)

[158] *The Trompezon Irrigation System of Eastern Guerrero*

In this paper, I present the primary technical features and social organization of an ancient irrigation system found in Eastern Guerrero. The so-called "Trompezon" consists not only in the management of water canals in irrigating large fields, but also a system designed to capture, transport, and accumulate rich soils along the arid margins of the upper basin of the Balsas River. This paper will highlight the fact that water conduction is only one of many variables that need to be addressed to fully understand the social and economic management of irrigation plots in a complex archaeological irrigation system.

Gyucha, Attila (Munkacsy Mihaly Muzeum)

[160] *The Transition between the Late Neolithic and Early Copper Age on the Great Hungarian Plain: Towards a New Model of the Changes*

The Hungarian-American Körös Regional Archaeological Project in southeastern Hungary has yielded great amount of information with respect to this transitional period. The results of excavations at Early Copper Age sites and the regional data on Late Neolithic and Early Copper Age settlement organization permit us to gain a better understanding of how and why these transformations occurred. This paper discusses the constraints and possibilities of interpreting data on paleoenvironment, material culture, economy and social organization of the region and proposes a new model for explaining the changes that occurred on the Great Hungarian Plain around 4500 BC.

Gyucha, Attila [206] see *Galaty, Michael L.*

H, Wang [22] see *Morgan, Chris*

Ha, In-Soo [116] see *Choy, Kyungcheol*

Haas, Jonathan [83] see *Creamer, Winifred*

Habicht-Mauche, Judith (UC-Santa Cruz)

[290] *Practicing What We Preach: Putting Practice Theory Into Action in American Archaeology*

This paper reviews current trends in the application of Practice Theory in American Archaeology. It moves beyond abstract theory to examine specific examples of how applications of Practice Theory are contributing to such diverse areas of research as household archaeology, landscape archaeology and studies of ancient technology. Examples are drawn from presentations in this session and beyond.

Habu, Junko (University of California Berkeley) and Mark Hall (Institute for East Asian Studies, UC Berkeley)

[22] *The View from Opposite Shores: Complex Hunter-Gatherers of the Japanese Archipelago and California*

Comparative studies between the Jomon cultures of prehistoric Japan and Native American cultures of late prehistoric and historic California provide unique opportunities to investigate mechanisms of long-term hunter-gatherer cultural change in relation to climate change and population density. Previous studies indicate that both groups utilized nuts, seeds, and/or fish, including salmon, and that their importance varied through time. Despite these similarities, the long-term trajectories of these two cultural zones are markedly different. Using both archaeological and ethnographic data, this paper demonstrates how such a comparison can help us understand changes in subsistence, settlement, and society of complex hunter-gatherers.

Hackbarth, Mark (Logan Simpson Design Inc.)

[111] *Architecture at Pueblo Patricio: The Phoenix Convention Center Project*

Recent excavations in downtown Phoenix, Arizona exposed remains of Pueblo Patricio dating to the Red Mountain phase. Architectural features from the Phoenix Convention Center project are more substantial than previous excavations have recognized. The implication of these differences for settlement patterns during the transition to the Formative are discussed.

[111] *Chair*

Hackenberger, Stephen [188] see *Lee, Morgan E.*

Hackenberger, Steven (Central Washington University), Gideon Cauffman (Central Washington University) and Tucker Orvald (Central Washington University)

[172] *GIS Models and Archaeological Assemblage Variation: Middle Columbia River Uplands*.

Settlement models and GIS analysis have matured through three decades of research in the uplands of the Middle Columbia River. Case studies from successive programs on the

Yakima Army Training Center are compared and a synthesis of objectives and methods is developed for a new generation of settlement studies and GIS applications. Special emphasis is given to the use of deductive subsistence models and the analysis of assemblage diversity.

Haertel, Kirstie (National Park Service)

[278] *The Owl Cave Faunal Remains: An assessment of research potential and proposal for future study*

The reliance on artiodactyls, particularly bison, by indigenous groups occupying the Eastern Snake River Plain has been identified through excavations at a variety of cave sites in the region. The Owl Cave faunal assemblage (including an extensive bison bone bed excavated in the 1960s) received preliminary examination and remains largely unreported. Site-specific questions concerning faunal composition, the number of events represented, seasonality, processing or other taphonomic agents can be addressed by applying zooarchaeological analyses to the existing collection. These efforts will generate a more robust picture of the Owl Cave assemblage and guide future research at the site.

Haesaerts, Paul [94] see Nigst, Philip R.

Haeusler, Werner [92] see Wagner, Ursel

Hager, Lori [276] see Larsen, Clark Spencer

Hagopian, Janet and James Allison (Brigham Young University)

[222] *Ceramic Variability and Cultural Diversity in the Northern San Juan Region*

The Northern San Juan region during the Pueblo I period has been subdivided into eastern and western groups based on differences in site structure and organization. Ceramic assemblages from across the Northern San Juan region also vary significantly. This poster uses both stylistic and technological traits to examine ceramic variability between Animas-La Plata sites and contemporary sites from the surrounding Northern San Juan region. The ceramics suggest at least three regionalized traditions, implying a greater degree of cultural diversity than previously suspected.

Haines, Helen and Clifford Patterson (University of Western Ontario)

[144] *Suburbia, Maya Style?: Results Of The Preliminary Investigations At Ka'kabish And The Intermediary Settlement Zone In The Lamanai Periphery*

Ka'Kabish is a new site on the North-Central Belizean coastal plain. Although known since the late 1980s it has only recently been investigated by archaeologists. Located roughly 10 km northwest of the more well documented centre of Lamanai, research at Ka'Kabish and in the domestic settlement zone that links the two centres contributes valuable new data about the relationship between Classic Period Maya centres. Moreover, work conducted at these areas provides valuable insights into how we may define the parameters of ancient Maya polities.

Halbmaier, Rebecca (EPG, Inc) and Sandy McDaniel II (EPG, Inc.)

[214] *An Overview of Projectile Points Identified within the Eastern Great Basin*

This poster proposes to illustrate the diversity of projectile point types within the Great Basin, based on a survey in eastern Nevada. Geographic ranges of projectile points have been assumed for some time, however, variations seem to occur both regionally and locally. Based on material types, variations, densities, and associations to other identified projectile point types, this poster will show that although variations account for some differences, geographic ranges may also need to be modified.

Hall, John (Statistical Research Inc.) and Jesse Ballenger (Statistical Research, Inc.)

[304] *Apache Tears: Bipolar Reduction and Prehistoric Economics of Marekanites from Superior, Arizona*

Recognized as one of the most extensively utilized sources of obsidian in the Southwest, the marekanites from Superior, Arizona constitute nearly 99 percent of the obsidian artifacts recovered from the US 60 project area. This paper provides an overview of

Superior obsidian including its geological availability and controls, replicative bipolar reduction, and the analytic expectations of controlled bipolar tool production. This information is applied to the prehistoric quarrying and utilization of Superior obsidian evident at predominantly Classic and Sedentary period site components located in the shadow of Picketpost Mountain, its geological source.

Hall, Mark [22] see *Habu, Junko*

Hall, Sharon [289] see *Spielmann, Katherine*

Halligan, Jessi (Texas A&M University) and Ben Ford (Texas A&M University)
[163] *Modeling New England Prehistoric Sites by Comparing Survey Areas to Site Location*
Most predictive models compare site locations to entire regions for factor analysis. This study differs by using project area boundaries and site boundaries obtained from CRM reports to compare site locations to actual areas examined during surveys, giving a more direct relationship. Summed project area data such as slope, aspect, elevation, distance to water, soil drainage, and soil parent material were analyzed in a GIS and compared to the same data for prehistoric archaeological sites of different time periods in eastern Massachusetts. Weights obtained from these variables were applied to site and area data from Rhode Island for model verification.

Hallmundsdóttir, Margret (Byggðasafn Árnesinga)

[28] *The Sagas and Icelandic Archaeology*

In the early years of Icelandic archaeology, in the late 19th century, scholars traveled around Iceland with the sagas in one hand and a shovel in the other. They were convinced that the sagas were true, and were in search of evidence to support them. Today we recognize such literal interpretation was highly subjective. So how has the use of literature shaped the current state of Icelandic archeology? Some Icelandic archaeologists have argued there is no archaeological value in the sagas. The MAP excavations at Hríðbrú and Egil's Saga have demonstrated the use of saga literature has significant archaeological merit.

Hallock, Ashley (Washington State University) and John G. Jones (Washington State University)

[84] *Taken with a Grain of Salt: A Palynological Perspective on Belizean Paleoecology and Salt Production*

Analysis of three sediment cores collected in central Belize in 2007 reveals a complex history of past environmental change, including ample evidence for coastal instability and subsidence. Coupled with archaeological evidence from the region, we now are beginning to see a clearer picture of past human activities in the area. Lagoonal salinity is indicated by changing mangrove assemblages, which offers further insight into past salt-making efforts in the region. A regional paleoenvironmental sequence provides important baseline data on the settlement and abandonment of the central Belize area.

Halperin, Christina

[314] *Mimesis, Alterity, and the Subaltern: Maya Figurines through the Generations*
Iconographic analyses of Maya figurines often suggest that the images reflected social reality. While this may be the case to some extent, a mimetic interpretation following Michael Taussig and others highlight the subtleties in which humans are not merely passive receptors of an external world, but creatively channel and engage with social categories and situations to meet new needs and challenges. In particular, attention to mimesis carves space for the subaltern and the negotiated relationships between dominant and subordinated groups. This paper takes up these themes in relation to Maya figurines from the Classic to Colonial periods.

Halperin, Christina [233] see *Moriarty, Matthew D.*

Hambrecht, George (CUNY Graduate Center) and Ragnar Edvardsson

[246] *Surviving Catastrophe in Early Modern Iceland – Environmental Archaeology meets Historical Archaeology in the Subarctic*

The early modern period (1600-1800) in Iceland was a time of dangerously variable climate, epidemics, a highly restrictive trade monopoly, and destructive volcanic eruptions. Zooarchaeological analysis of middens from a range of settlements have, especially in combination with other facets of environmental archaeology, revealed survival strategies that show an unyielding, highly connected system that would fold under the many pressures of the early modern period. Yet the seeds of a new system that would allow Iceland to survive and eventually prosper are apparent in these analyses as well. Panarchy theory offers an engaging framework to explain these transformations.

Hamilton, Elizabeth [96] see White, Joyce C.

Hamilton, Marcus (University of New Mexico)

[261] *Energy and information flows form complex networks in hunter-gatherer social systems*

Hunter-gatherer societies are embedded within complex ecosystems, systems structured by the flows of energy and information between organisms and their environments. Hunter-gatherers harvest resources from these ecosystems to meet basic energetic, reproductive, and material requirements. Within the constraints of human life history we show that hunter-gatherers optimize the flow of energy and information by forming complex social networks. These complex networks are ubiquitous in nature wherever flows of energy and/or information are optimized within system constraints. We show that the quantitative signatures of such complex systems, scale-free probability distributions, are found in both hunter-gatherer ethnographic and archaeological data.

Hammerstedt, Scott (University of Oklahoma), George Milner (Pennsylvania State University) and Kirk French (Pennsylvania State University)

[129] *Experimental Use of Mill Creek Hoes as Digging Tools*

We present the results of experiments that test the effectiveness and efficiency of Mill Creek chert hoes, which are commonly found in the American Midwest. Using tool replicas, different types of soil were excavated by both field school students and Maya laborers who were used to hard work. The results permit refinements of estimates of the labor and time involved in everyday chores and building earthen constructions such as mounds. Such work results in a better understanding of the demands placed on households by ancient construction projects.

Hammond, Joanne (Pacific Heritage Research) and Simon Kaltenrieder (Pacific Heritage Research)

[18] *Decolonizing Archaeology From the End of the Shovel*

In B.C., sovereignty over cultural heritage is strengthened by the personal involvement of a legion of First Nation archaeological assistants. Once compromise, now commonplace, this arrangement shapes new roles for members of Indigenized field parties. As archaeologists bear some responsibility for cultural interpretation/accommodation, so too do fieldworkers become representatives of and to communities, participants and observers, stewards and friends. Distinct from governmental consultation, the implications of cooperative fieldwork are undervalued in discussions of decolonization. We explore issues in B.C.'s informal system of Aboriginal field assistance, including tokenism, "capacity", and leveling effects of sharing misery and joy in the field.

[18] *Co-Organizer*

Hammond, Joanne [133] see Nord, Celia

Hancock, R.G.V. [219] see MacDonald, Brandi Lee

Haney, Faith (Central Washington University)

[239] *The Treasured Ship: Exploring the Value of Maritime Heritage Resources Through an Investigation of the Shipwreck Austria*

The shipwreck Austria is a mid-nineteenth century wooden ship that foundered under ballast on Washington's outer coast during a blustery gale in 1887. Though not normally considered intrinsically valuable, the wreckage of the Austria provided the means to introduce a new generation of archaeologists to the importance of maritime heritage resources through their participation in a shipwreck archaeology field school in July of 2007. A segment from a documentary film titled "The Treasured Ship" will also be presented, illuminating the experiences of the field school participants and exploring the value of shipwrecks in their own right.

Hanks, Bryan (University of Pittsburgh)

[96] *From Scale to Practice – A New Agenda for the Study of Early Metallurgy on the Eurasian Steppe*

This paper offers a critical evaluation of conventional scholarship surrounding early metallurgy on the Eurasian steppe. Traditionally, the emergence of metallurgy in this region has been viewed as peripheral to core developments in Europe and the Near East. Such a view has deflected scholarship in the steppe region from questions concerning metallurgical production, consumption, trade and value, and their connection to local diachronic socio-cultural changes. This paper examines these key issues through recent research programs in the steppe region and in so doing offers an important comparative case study for early metallurgy and its relationship to trajectories of socio-cultural change.

Hanna, Jonathan (Montclair State University), Peter Davis (Montclair State University), Sarah Brodsky (Hunter College- CUNY), Stanley Walling (Community College of Philadelphia) and Tiffany Parisi (American University)

[297] *Of Altars and Terraces: Domestic Ceremonialism and Residential Terracing at Chawak But'o'ob, Belize*

Previously reported investigations at the Late Classic Maya site of Chawak But'o'ob, Belize revealed domestic platforms and multi-roomed foundation braces constructed atop stacked, dry slope contour terraces. Further examination during 2006 and 2007 has uncovered an enigmatic paved terrace surface and evidence of ceremonialism in the form of a possible drum-shaped interior house altar and two anthropomorphic ceramics, one of which may be a mask fragment. This paper will discuss archaeological and ethnographic parallels and consider how these findings may enhance our limited understanding of rural domestic ritual among ancient Maya commoners.

Hansell, Patricia (Temple University)

[316] *Craft Specialization In An Early Agricultural Village: The View From La Mula-Sarigua, Central Pacific Panama*

Numerous writings suggest that craft specialization is a significant indicator of social complexity. Yet rigorous studies that attempt to demonstrate that products, e.g., stone tools, are the work of specialists are rare in lower Central America. To address this deficit quantitative and experimental analyses were conducted on 2 tool types thought to be the products of specialists from the 1st millennium BC village of La Mula-Sarigua. In this paper I present the evidence for craft specialization for these two types and discuss the implications of this research in assessing craft specialization and social complexity in Panama specifically.

Hansen, Nate [50] see Brashler, Janet G**Hansen-Speer, Karla (Indiana State University)**

[204] *Arrested development: Constraints of food production on Hohokam complexity*

The Classic Hohokam (A.D. 1150-1450) represent the most complex phase of prehistoric desert agriculturalists in the American Southwest, yet they never became a complex chiefdom or state. It seems clear that the capacity of their food production system and the environment constrained their cultural trajectory. Here, I examine the agricultural practices the Hohokam employed as increasing population density and societal complexity escalated the demands made on their food production system. I suggest that the necessary flexibility of farming techniques and relatively low carrying capacity of the land countered a path toward centralization.

Hanson, Diane, David Staley (New York State Museum), Debra Corbett (U.S. Fish and Wildlife Service) and Kimberly Fleming (U.S. Fish and Wildlife Service)

[294] *Upland Sites in the Aleutian Archipelago*

The assumption that people living on the Aleutian chain did not spend much time inland, reflects early investigators' views about island land use. An archaeological survey was conducted on Adak Island in from the shoreline. In one week and within approximately 6 square miles, the authors recorded eight sites at elevations between 100 and 300 feet above sea level in various settings. Three of the sites had 15 or more house pits. These results require a reconsideration of land use and population density of precontact Unangax in the Aleutian Islands.

Hantman, Jeff (University of Virginia)

[282] *Merging Past and Present, Continuity and Change: Collaborative Archaeology and Local Interests in Monacan Cultural Heritage*

The histories of Native Americans in the Eastern U.S. have been poorly recorded, preserved, and represented due to colonial-era policy, race-based ideology and law, and indigenous strategies of maintaining low visibility in those contexts. The Monacan Indians of Virginia were one such 'low visibility group' for whom past and present became disconnected. Now, the Monacans are rewriting their history for a broad public audience. Collaborative archaeology has helped bring Monacan history into the present. This paper examines that collaboration, which stresses listening, local interests, and an on-going conversation which does not essentialize Monacan but examines the historical interplay of continuity and change.

Hard, Robert (Univ of Texas at San Antonio), A.C. MacWilliams (University of Calgary), John Roney (Colinias Cultural Resource Consulting) and Karen Adams (Crow Canyon Archaeological Center)

[34] *The Pre-Ceramic period and Early Agriculture in the Gran Chichimeca*

Charles Di Peso's treatment of the pre-Ceramic period and the adoption of agriculture in the southwest United States and northwest Mexico conformed with dominant views of the discipline at the time. Consistent with his use of the direct-historical approach, Di Peso saw roots of his O'otam culture (local prehistoric Ceramic periods) in the preceding Cochise culture. With a geographically vast Gran Chichimeca, he envisioned the Cochise culture reaching far into Mexico. If in different terms, Di Peso's ideas and breadth of thinking retain valuable applicability.

Hard, Robert J. [162] see Gerrard, Lori; [185] see Roney, John

Hardy, Jessica and Gabriel Wrobel (University of Mississippi)

[102] *Rockshelter Variation in the Caves Branch River Valley of Belize*

Excavations conducted at Caves Branch Rockshelter and Deep Valley Rockshelter in 2005, 2006, and 2007 revealed distinct practical and ideological functions. In 2007, excavations at three other rockshelters were used to develop a regional comparison of sites to determine how much factors such as size, morphology, location, and accessibility affected the length and type of use of rockshelters by the ancient Maya. This study revealed over-arching similarities in artifact assemblages as well as discrete features which define each site as a unique entity.

Hare, P. Gregory [260] see Froese, Duane

Hare, Timothy (IRAPP, Morehead State University) and Marilyn Masson (SUNY, University at Albany)

[14] *Intermediate-Scale Patterns in the Urban Environment of Postclassic Mayapán*

Mayapán manifests a complex pattern of urban organization generated by interacting social, political, and economic processes operating at multiple spatiotemporal scales. We explore the evidence for intermediate-level patterns in Mayapán's urban configuration. We ask what evidence exists for local patterns of neighborhoods or barrios? How are local patterns integrated within the city and articulated with elite residential/ceremonial/administrative facilities at the center and distributed throughout the city? How are

residential aggregates linked with the complex network of pathways, including the major avenue? We describe analyses of ceramic distributions, clusters of production specialization, and potential ethnic or merchant neighborhoods.

Hargrave, Michael (ERDC/CERL), Jarrod Burks (Ohio Valley Archaeological Consultants Ltd.), Lewis Somers (Geoscan Research USA) and Rinita Dalan (Minnesota State University Moorhead)

[54] *Geophysical Investigations at Cahokia: Methodological Issues and Future Directions*
Cahokia was the largest, most complex prehistoric settlement in North America north of Mexico. Today a portion of this World Heritage site (2,200 acres and 68 mounds) is preserved as an Illinois State Historic Site. Given the depth and complexity of deposits, and emphasis on preservation, traditional archaeological techniques cannot be expected to provide a comprehensive understanding of the site's developmental history and internal organization. Previous and ongoing investigations have demonstrated the benefits of geophysical approaches. Methodological issues are discussed, including the development of research questions, suitability of particular techniques, sampling, and need for independent evaluation of geophysical results.

Hargrave, Michael [81] see Clay, R Berle

Harlan, Mark (Dos Locos Consultorrs, LLC)

[23] *Identity and Diversity in the Figurines from Chalcatzingo, Morelos, Mexico*
The anthropomorphic figurines from Chalcatzingo have received a good deal of past attention and studies have revealed correlations with emerging community stratification, gender relations and, potentially, cult behavior associated with a ruling elite. Each of these past studies has been limited either by the scale at which variability was addressed or by concentrating on only a subset of the figurines. The present discussion attempts a broader perspective on iconographic variation while at the same time employing a finer scale of analysis to address issues of identity and diversity.

Harmon, James (National Park Service)

[163] *Water, Wetlands and Problems of Landscape Change in Site Location Analysis: A Case Study from the Late Prehistoric Eastern Woodlands*
Proximity to water sources and wetland environments has frequently been identified as strongly predictive of sensitivity for prehistoric archeological site location. While there are strong correlations between site location and distance to wetlands or a water source, landscape change following site formation often renders such spatial relationships problematic, even for late prehistory. GIS-based research into the Late Woodland settlement pattern of Southern Maryland indicates that such proximity data are best used in multi-variate analyses, and in conjunction with data pertinent to additional physiographic characteristics of surrounding landforms, such as distance to drainage features and soil association.

Harper, Cassandra (Florida Public Archaeology Network)

[9] *Archaeology has Class – Developing Curricula to Teach Archaeology in Florida*
Although archaeology programs have been established in Florida, it has been mostly a grassroots effort by a passionate few. The creation of the Florida Public Archaeology Network (FPAN) lends resources to this trend that were once not available. Staff at these centers focus on public awareness and education as a primary goal, which gives them the opportunity to develop, implement, and support archaeological curricula in schools. Working with teachers, administrators, and volunteers, FPAN has started to highlight the importance and expanse of Florida's heritage to our children by teaching archaeology in the classroom – where they are a captive audience.

Harper, Veronica (California State University Long Beach), Carl Lipo (California State University, Long Beach), Jessica Jaynes (California State University, Long Beach) and Robert Dunnell (Mississippi State University)

[11] *Beveled projectile points and ballistics technology*

Archaeologists have long speculated the function of 'beveling' that occurs on opposite

faces of the blades of chipped stone bifaces. Many argue that beveling is a consequence of resharpening where edges are "rejuvenated" by steep unifacial flaking. Here, we demonstrate that beveling the blade edges of bifaces also provides performance improvements for ballistic properties. Using mathematical models and wind tunnel results we demonstrate that beveling produces differential pressures on alternate sides of a biface that causes rotation when velocities exceed 18 mps.

Harris, J (Rutgers University), Emmanuel Ndiema (Rutgers University), Gail Ashley (Rutgers University), Loretta Dibble (Rutgers University) and Purity Kuira (National Museum of Kenya)

[149] *Modeling Long-term Temporal and Spatial Patterns of Holocene Land Use at Lake Turkana, Kenya*

Archaeological investigations regarding land use, resource utilization, and population shifts during the Holocene in the Lake Turkana region have been conducted since 2000. This multi-scale landscape archaeological project implicitly incorporates archaeological, geological and paleoenvironmental investigations conducted at varying scales to detect, elicit and understand both the environmental and the human dimensions of temporal and spatial patterning. By combining studies of the modern paleo-land surface of landforms and remnant Holocene geomorphology (using aerial photography and satellite-based remotely sensed data), paleoenvironmental and geological data of past faunal and flora populations, with large-scale excavations and extensive surface survey hypotheses about land and resource use, population migrations, and long-distance resource utilization can begin to be addressed. This paper will report on the project and comment on the dietary and resource utilization shifts between hunter-gatherers, fishers, and pastoralists during a 6,000 year period.

Harris, John W. K. [29] see Braun, David R.

Harris, John W.K. [6] see Dibble, Loretta J.

Harris, Lucille (University of Toronto)

[209] *Influence of the Fur Trade on Northern Interior Plateau Social Organization: Theoretical and Interpretive Implications*

This paper questions the appropriateness of direct ethnographic analogies in archaeological interpretation on the Canadian Plateau by exploring the direct and indirect effects of the fur trade on Plateau social organization. Preliminary analysis of historic and ethnographic data indicate introduction of the clan/class/potlaching system to the interior ca. AD 1800, resulting from heightened interaction via trade and intermarriage between coastal and interior groups beginning with the onset of the European fur trade in the Pacific Northwest, ca. AD 1785. Implications of these findings include the need to re-assess interpretive methodologies and to re-evaluate theories of emergent complexity in the region.

Harris, Susan (University of California, Santa Barbara)

[168] *Chronological indicators in lithic debitage from the southwest German Mesolithic*
Surface survey provides a means to address archaeological questions that cannot be answered through excavation alone. However, survey data is often difficult to integrate into regional views due to problems in dating surface assemblages, especially in earlier time periods such as the Mesolithic where lithic assemblages are small. Analysis of diagnostic artifacts alone can produce a distorted classification. Changes in production technology in debitage can provide a more accurate means to assign a possibly mixed surface assemblage to the correct time period or periods. An example from the southwest German Mesolithic illustrates the potential for debitage analysis.

Harris, Susan [215] see Fisher, Lynn E.

Harrison, Ramona

[246] *Point of Exchange in Eyjafjörður*

Ongoing analysis of faunal and artefactual materials from the high medieval Icelandic

trading site at Gásir has produced information on the site's provisioning system and hints to a need for potentially regulated herding strategies on the supplying end. Beyond the fauna relevant to site subsistence, a number of mammals offering information on status and trade and exchange have been recovered. This paper will discuss the faunal remains and relate them to issues including Gásir's potential impact on its hinterland, the socio-economic forces present at the market fair, and its trade and exchange relations with other north Atlantic countries.

Harrison-Buck, Eleanor, Ellen Spensley (Boston University) and Patricia McAnany (UNC Chapel Hill)

[233] *Foreign Identity and Integration in the Sibun Valley, Belize: Examining Technological Styles of Terminal Classic Maya Ceramics*

Current archaeological studies of social identity suggest that traits tend to merge or blur at the margins of social units and scholars emphasize the need for more sophisticated ways of examining technological styles and interpreting material culture. Through stylistic, chemical and compositional analyses of ceramic material, this research seeks to address the complexities of foreign interaction and integration that occurred in the Sibun Valley during the Late-to-Terminal Classic transition (A.D. 750-900). Ceramic evidence points to a shift in political and economic orientation, emphasizing the dynamic nature of the processes and mechanisms through which groups construct, maintain, and negotiate their identity.

Harro, Douglas (Applied Earthworks Inc)

[202] *The Tyranny of Trajectories: Examining Land-Use through a Contextual Analysis of Biface Use and Replacement*

This study examines the topic of hunter-gatherer land-use by pairing production trajectory models with systemic contextual analyses. Flaked stone tools from 29 assemblages on California's central coast dating between 9,500 and 500 cal. years B.P. are examined. These analyses demonstrate that it is the manner and location of biface replacement, rather than biface production, that is most revealing in terms of land-use patterning. A dramatic shift in biface replacement patterns approximately 3,000 years ago coincides with a sudden increase in population density and likely reflects a change from a forager to a collector lifeway.

Harrower, Michael (Dept. of Anthropology)

[315] *Is the Hydraulic Hypothesis Dead Yet? Irrigation and Social Change in Ancient Yemen*

Irrigation played an important role throughout the history of ancient Yemen; large-scale flash floodwater irrigation sustained ancient states and the region holds important potential to reconsider links between irrigation and social change. The hydraulic hypothesis is seriously, perhaps fatally, flawed and new perspectives are required to move beyond the confines of unicausal determinism. This paper examines millennia-long connections between sociopolitics and the increasing technical and organizational complexity of irrigation in ancient Yemen. Irrigation not only generated food to sustain burgeoning populations but additionally afforded leaders the ideological prestige of commanding transformation of hyper-arid locales into regional centers of civilization.

Harry, Karen (University of Nevada-Las Vegas) and James Watson (Indiana University- University of Purdue Indianapolis)

[104] *The Shivwits Research Project: Exploring Virgin Anasazi Settlement and Subsistence Patterns on the Arizona Strip*

In the summers of 2006 and 2007, the University of Nevada Las Vegas conducted research at the Lava Ridge Ruin, a late Pueblo II/early Pueblo III Virgin Anasazi settlement on the Parashant National Monument of far northwestern Arizona. This project, which represents one of the first large-scale excavations in the region, was designed to understand how the prehistoric farmers managed to make a living in this unlikely area characterized by limited rainfall, a lack of permanent watercourses, and a short growing season. This paper presents the findings from this project and their implications for understanding regional subsistence and settlement patterns.

Harry, Shafer [267] see *Hester, Thomas R.*

Hart, Siobhan (University of Massachusetts)

[300] *Gendered Archaeologists, Gendered Stakeholders*

Over the last two decades, archaeological practice has been transformed as many archaeologists have sought a more equitable discipline and research that promotes social justice. Feminist critiques of research and practices, as well as the increasing numbers of women professionals, have contributed significantly to this transformation. An important manifestation of these changes is the increasing collaboration among archaeologists and stakeholder communities. What happens when gendered archaeologists meet gendered stakeholders? How does gender affect the social relationships of community-based archaeology? This paper explores the intersection of gender and community-based archaeologies with examples of gendered encounters from a project in western Massachusetts.

Hartenberger, Britt (Western Michigan University)

[309] *Technology Adoption and the Shift from Stone to Metal in Late Prehistoric Anatolia*

Chipped and ground stone technologies, significant components of Neolithic and Chalcolithic sites in the Middle East, began to decline in importance in the Bronze Age. Previous studies of this shift from stone to metal have suggested that the generally assumed superiority of metal tools was not the main cause for their adoption. Instead, the shift was likely related to greater social complexity and developing craft specialization (Rosen 1996). Using lithic data from Chalcolithic, Bronze Age and Iron Age sites in southeastern Anatolia, I assess the gradual alterations in the lithic industry over this period as the bronze industry emerges.

Hartley, Charles (University of Chicago)

[106] *Exploring Community Relations through Stylistic Analysis of Ceramics from the Early Bronze Age in China*

This study seeks to elucidate the connections between communities of early Bronze Age China (ca. 1600-1400 BCE) through analysis of techniques used in the manufacture of ceramics from the Yanshi Shang City site in northern Henan Province, PRC. As the possible location of the earliest Shang period capital, a more detailed understanding of the social networks of which Yanshi Shang City was a part is crucial to gain a better understanding of this formative period of Chinese history. This research uses four typologies representing sequential stages along the technical pathways of production that incorporate traditional and archaeometric data.

Hartman, Lynn [222] see *Knight, Terry*

Hartnett, Alexandra

[268] *One Man's Castle is Another Man's Dún: The Integration of Gaelic-Irish Tower Houses into Old English Vernacular Architecture in Galway, Ireland*

In the town of Galway, Ireland, in the late and post-medieval periods, the elite 'Old English' population marked its difference from the Gaelic-Irish hinterland even as it distanced itself from the English colonial administration; it was 'English' to one and 'Irish' to the other. Materially, this tension appears as the abandonment of the feudal feasting hall and the adoption of individual 'castles' that were constructed for the elite families. These castles are considered to be urban counterparts to a distinctly Gaelic-Irish tradition of tower houses that are prominent in the Gaelic-Irish countryside as the seats of late medieval indigenous power.

Hastorf, Christine (University of California)

[244] *Multi-Community Polity Formation in the Lake Titicaca Basin, Bolivia*

The Taraco Archaeological Project is investigating the processes by which decentralized, acephalous societies come to be organized into larger multi-community polities. The Peninsula is a perfect place for this inquiry bounded by the lake on three sides and involved in a large region-wide polity development. Our recent research investigated three models of

polity development by tracking the evidence for trade, agricultural production and social ideology. We can now speak more clearly about the role of these major influences on the inhabitants world as the regional political forces grew.

[179] *Discussant* [274] *Discussant*

Hastorf, Christine [244] see *Miller, Melanie J*

Hatoum, Rainer [300] see *Koenig, Viola*

Hattori, Shiho [270] see *Ichikawa, Mitsuo*

Hauff, Phoebe [167] see *Hollinger, R. Eric*

Hauser, Mark (University of Notre Dame)

[182] *Diasporic Ceramics in the Caribbean*

This paper offers an overview of ceramic traditions in the caribbean associated with the African Diaspora. His pottery, rather than being a single type or kind of ceramic is highly variable, a variability that bespeaks the complex and interwoven histories of Caribbean peoples. This pottery offers a different and unique sets of lenses on the cultural experience of enslaved Caribbean peoples, the scales of its expression, and the historical forces that shaped it.

[201] *Discussant*

Hauser, Neil (University of Colorado-Denver), Charles Richey (Colorado Archaeological Society) and Shannon Mahan (US Geological Survey)

[308] *Dating a Prehistoric Bedrock Mine in Western Colorado*

The "Flint Cave" Survey, funded by the Colorado Historical Society General Fund, determined the chronology of a bedrock "mine" located in a vein of silicified sandstone in west-central Colorado. The hypothesis of this project was that the "mine" was of prehistoric origin, however, other possibilities included prehistoric religious site, a source of material for flints by early trappers and traders or cavalry located nearby in the late 1800's, or an exploratory hole from prospecting during the 1940's and 1950's. This project informed the period of last mining activity by using 14C and OSL on sampled material from the mine.

Hauser, Neil [308] see *Wilson, Wayne H.*

Hawes, Kathleen (The Evergreen State College South Puget Sound Community College)

[188] *Artifact Plant and Charcoal Material Identification at Wet Sites-Cellular Analysis*

The use of cellular analysis in identifying plant material of artifacts recovered from wet sites was pioneered by Janet Friedman in her research at Ozette. This technique has been used to identify material used in artifacts recovered from the Sunken Village Site in Oregon and the Qwu?gwes Cultural Site in Washington. The results of these analyses has helped confirm local ethnobotanies of traditional use of plant materials in these areas; as well as identifying the use of yellow cedar at the Qwu?gwes site, which is infrequently found in this area. A database of local plant materials is also being compiled.

Hawkes, Wendy (c/o Upper Similkameen Indian Band) and Brenda Gould (Upper Similkameen Indian Band)

[18] *Decolonizing Archaeology: Insisting on Indigeneity*

First Nations have begun asserting ownership of their own past. Archaeology in British Columbia is inherently tied to this past and will be required to confront issues inextricably tied to a so-called post-colonial present. Moving forward requires becoming indigenous. The metamorphosis necessitates revisiting the role archaeology has played in First Nations communities. This is necessary because First Peoples are healing and transforming and becoming more proactive in their effort toward self-determination. Archaeology must adapt as Indigenous and non-Indigenous roles and positioning shift. To resolve any conflicts stemming from colonial concepts, Indigenous communities are insisting on indigenizing the archaeologist.

Hawkins, Megan (Texas A&M University)

[169] *The organization of prehistoric basalt tool production on the Samoan Island of Tutuila*
The relationship between ceramic and stone tool production has yet to be examined in Samoa. Further knowledge of lithic tool technology at ceramic-bearing sites must be attained in order to gain a greater understanding of ancestral Polynesian society. With this in mind, I will evaluate lithic assemblages associated with the ceramic components of sites on the Island of Tutuila in American Samoa. Ceramic and lithic data from sites such as Vainu'u (AS-32-016) can help modify the known cultural sequence and provide further knowledge on settlement patterns as well as socio-economic factors with regard to tool production.

Haws, Jonathan (University of Louisville), Bryan Hockett (BLM Elko Field Office), Caroline Funk (Stockton College) and Nuno Bicho (Universidade do Algarve)

[94] *Tracking the Last Glacial Maximum in Lapa do Picareiro (Portugal)*
Renewed excavations at Lapa do Picareiro have revealed a continuous sequence dated 10-22,000 BP. Abundant faunal remains in levels T and U dated 20-22,000 BP provide new paleoenvironmental and subsistence data. Numerous species of mammals, birds and amphibians indicate warm, Mediterranean-type conditions during an interstadial in the early LGM. Preliminary analyses suggest a both human and carnivore/raptor input. Artifacts include a few lithics, worked bone and a pierced red deer canine, typically found in Solutrean and Terminal Gravettian contexts.

Haws, Jonathan [69] see Hockett, Bryan

Hayden, Brian (Simon Fraser University)

[133] *The Sociopolitical Role of Ritual in Transegalitarian Societies*
Claims of supernatural knowledge have probably always been used to claim superiority and exclude large segments of a community. However, without the economic clout that control over surplus production provides in transegalitarian societies, ritual power must have always been ephemeral. Precisely how exclusive ritual claims were used in consolidating political power is still relatively unexplored. More obvious developments include: ancestor cults, secret societies, and hierarchical shamanistic fraternities. In order to interpret these developments, archaeologists need to know more about the kinds of ritual spaces associated with ritual strategies, which is an issue.

[133] Co-Organizer

Hayden, Brian [133] see Villeneuve, Suzanne N

Haydon, Rex (University of Chicago) and Maria Lozada (University of Chicago)

[291] *The Emergence of Bioarchaeology in Peru: Ancient traditions and modern approaches*

Peru has among the richest traditions of archaeological research in the world; however, ancient human remains have not figured prominently in archaeological work until recently. While Tello left an indelible mark with his studies of pre-Hispanic syphilis and artificial cranial modification in the early 1900's, bioarcheology failed to develop lasting roots in Peru, and few studies were published after his death in 1947. Beginning in the 1980's, a new generation of Peruvian and American investigators reestablished bioarchaeological methods in the reconstruction of ancient human behavior in Peru, adding critical new perspectives that promise to continue into the future.

Hayes, Alycia

[299] *Ruins Preservation: Documenting and Maintaining the Past for the Future*

This paper examines the fundamental importance of archaeologists performing ruins stabilization and the necessity of integrating comprehensive documentation with detailed mapping, and informed stabilization practices in accurately preserving the past for the future. A review of past preservation methods and present approaches combined with indigenous perspectives leads the author to recommend several suggestions. The author

completed a ruins preservation internship with the Flagstaff Area National Monuments division of the National Park Service summer 2007.

Hayes, Sue (Sonoma State University)

[318] *Sometimes a Great Notion: Demographic Estimation through Agricultural Simulation*
While exactly calculating an ancient population will always be impossible, it is becoming easier to determine reasonable approximations based on site resources. The Environmental Policy Impact Calculator (EPIC) can be set to run annual production cycles for decades or even centuries. This presentation reviews the successful use of EPIC to simulate pre-Columbian agricultural productivity at sites in Belize, El Salvador and Peru. Long term demographic estimates can then be created based on the site's sustainable food supply.

Haynes, Gary (University of Nevada-Reno)

[128] *The Rain of Animal Bones in Unpeopled Landscapes*
This poster illustrates data from modern bone assemblages in landscapes that are essentially megafaunal refugia. Actualistic observations have been recorded during 30 years of longitudinal fieldwork, and provide a potentially useful perspective for interpreting archeological and ethnographic evidence about human hunting. The data may help support a case for late Pleistocene human overkilling of megafauna in North America. Megamammal hunting in late Pleistocene refugia would have left a distinctive record of bone survival and distribution, due as much to animal behavioral patterns as to the nonrandom and clumped nature of the large-mammal resources.

[210] *Discussant*

Haynes, Gary [91] see Krasinski, Kathryn

Hays, Justin (Northern Land Use Research Inc.)

[230] *The Horseshoe Cove Site: An Example of a North Pacific Fishery and Subsistence Strategy from the Kodiak Archipelago 4000 Years Ago.*
The Early Kachemak Phase from 1800 to 500 B.C. on the southcentral Alaskan coast is one of the lesser understood periods in Alaskan prehistory. Least known is how this archaeologically distinct culture subsisted in the North Pacific ecosystem. Analysis of the Horseshoe Cove Site in the Kodiak Archipelago, occupied during this period, was undertaken to illuminate a picture of the subsistence economy. Detailed analysis from faunal remains confirm that mass harvesting of offshore fish was the primary subsistence base of this period. This suggests that mass fish harvest was critical for the origins and development of the Kachemak Culture.

Hays, Maureen [258] see Franklin, Jay D.

Hays-Gilpin, Kelley [228] see Newsome, Elizabeth A.

Hayward, Michele, Frank Schieppati (Panamerican Consultants, Inc.) and Michael Cinquino (Panamerican Consultants, Inc.)

[71] *Spirituality from a Prehistoric Caribbean Context*
Modern Western concepts of spirituality tend to compartmentalize individual and societal expression of incorporeal needs and desires. Archaeological data sets from sanctuaries to rock art point to prehistoric spiritual understandings that, in contrast, are more inclusive and fluid. This appears to be the case in the Caribbean during the prehistoric period, where we argue that rock art in particular played an integrative role in the lives of individuals and communities. This position is supported by the ethnohistorical accounts that, along with other ceremonial artifacts and structural features, indicate an active and expansive ritual and ceremonial life.

Healan, Dan (Tulane University)

[43] *Ground Platform Preparation and the "Banalization" of the Prismatic Blade*
Ground Platform Preparation and the "Banalization" of the Prismatic Blade Obsidian prismatic blades are a diagnostic and long-lived technological tradition in Mesoamerica

whose importance is evident in their ubiquity. Their initial restricted occurrence as a status item in the Formative period stands in sharp contrast to their role as a ubiquitous, mundane commodity in Postclassic times. That this "banalization" apparently accompanied the appearance and spread of ground platform preparation makes a strong argument for the role of the latter in this process. The specific causal relationships involved, however, appear to pertain less to factors of increased individual productivity than to those of skill, as indicated by comparisons between core/blade workshops at consumer sites in Central Mexico versus those situated near obsidian quarries at Ucaro, Michoacan.

Healy, Paul (Trent University), Bobbi Hohmann (Fernbank Museum) and Terry G. Powis (Kennesaw State University)

[181] *Preclassic Pacbitun: Early Architecture, Craft Production, Subsistence and Exchange*
The Classic Maya center of Pacbitun, located at the southern edge of the western Belize Valley, was founded about 900 BC. Multi-year excavations have unearthed preserved remains of Middle Preclassic habitations, and traces of early Maya crafts. Evidence for subsistence and exchange is also available. By the start of the Late Preclassic, marked by large-scale site modifications, a formal plan for the ceremonial center of Pacbitun was in place, including initiation of large-scale masonry architecture, presaging the site's Classic period florescence.

[181] *Chair*

Healy, Paul [181] see Awe, Jaime J.

Healy, Paul F. [59] see Dennett, Carrie L.

Hearth, Nicholas

[302] *Flaking Away at the Mul Chichem Household: A Preliminary Examination of Lithic Tool Manufacture and Village-Level Economy*

Ancient Maya people required stone tools for their subsistence and ritual activities. Differing degrees of tool types and manufacture intensity met these needs. Technological analysis of fine screen recovered midden debitage is consistent with biface and flake core manufacture at the Late Classic Period Mul Chichem household. From this analysis, arguments for a village-level economic scale of tool manufacture at Chan will be compared to evidence and economic models derived from research at other Mesoamerican sites.

Hearth, Nick [213] see Yacubic, Matthew Patrick

Heath, Margaret (Bureau of Land Management) [151] *Discussant*

Hebda, Richard [172] see Steffen, Martina L.; [109] see Siemens, Alfred H

Heckman, Robert (Statistical Research, Inc.), Christopher P. Garraty (Statistical Research, Inc.) and Resha Shenandoah (Statistical Research, Inc.)

[304] *Ceramic Technology of the Forager-Farmer Transition: Late Archaic and Early Agricultural Pottery of Southern Arizona*

Excavation of several Cienega and Red Mountain phase site components resulted in the collection of over 3,500 sherds from non-riverine habitation loci in the Queen Creek Region. This collection allowed a detailed examination of the beginnings and development of well-fired ceramic container technology in southern Arizona. Our preliminary findings concerning vessel manufacture and function are compared to previous studies at sites along the Gila and Middle Santa Cruz Rivers, along with a cross-cultural comparison with proto-historic and historic forager-farmer groups. The results shed light on the transition from multi-use vessels to an increasingly specialized ceramic container technology.

Hedquist, Saul (SWCA Environmental Consultants, Inc.), Grant Fahrni (Logan Simpson Designs), Heather West (SWCA), Michael Sheehan (SWCA) and Thomas Sheehan (SWCA)

[104] *Mobile Populations in the Mobile Valley*
SWCA Environmental Consultants conducted an intensive survey of 10,000 contiguous

acres in the Rainbow and Mobile Valleys south of the Phoenix metropolitan area. This area lies near the boundary between traditional Hohokam and Patayan regions. Combined with the early Euro-American presence, the data set generated by this survey affords an excellent vehicle for cultural interaction and land use patterns across a vast expanse of time. The results of this survey indicate significant, if transitory, use of this extensive area. Preliminary analyses indicate it served as a natural conduit between the Gila River and isolated uplands to the south.

Hedquist, Saul [281] see Sheehan, Michael S.

Hegmon, Michelle (Arizona State University)

[126] *Bird Imagery on Mimbres Pottery: Ecological and Social Significance*

Figurative images on Mimbres pottery from the US Southwest often include details indicative of the species of the animals depicted. Consultation with an ornithologist permits identification of bird type in many of the 300+ bird images. The spatial distribution of this imagery is used to address two sets of questions: Do different types of birds appear to be indicative of social groupings (at the intra or inter-site level)? Do the distributions appear to be associated with the ecological setting, and (if so) how does it compare with the environment and distribution of birds today?

Heilen, Michael

[304] *From Basin to Rim: Foraging and Farming Landscapes in South-Central Arizona*

The US 60 project resulted in the discovery of habitation and limited activity site components dating from 900 BC through AD 1450, including ancient agricultural habitation sites in non-riverine settings. Focusing on these early sites, we compared the landscape context of US 60 sites to over 1,500 sites in an approximately 4,500 km² study area. In this paper, variability and change in forager-farmer land use strategies is modeled by tracking long-term variation in site location and composition. This information is used to interpret the role of the US 60 sites in foraging and farming landscapes of south-central Arizona.

Helmke, Christophe (University of Copenhagen)

[102] *The Paleography of CH'EN Glyphs in Ancient Maya Writing*

A decade ago David Stuart proposed that a series of logographic substitution sets in ancient Maya writing should be read as ch'een or "cave". Examining the texts in which these logograms occur reveals not only the topographic and cosmological importance of these subterranean sites, but also that caves served as key settings to ritual and martial events. In the present study the repertoire of ancient Maya written references to caves is in excess of 300 occurrences and of great longevity. A complete typology and paleographic treatment of these examples is proposed as are the corresponding time spans of particular variants.

Henck, Amanda [168] see Taylor, James W.

Henderson, A

[293] *What DO They Remember? Assessing the Impact of an Archaeology Unit on School Children's Knowledge and Experience*

Researchers seldom investigate the long-term impact of archaeology education programs. Yet, follow-up studies have the potential to provide valuable insights into how children learn about the past and what facts and experiences remain with them. Such studies also have practical applications for teaching. This paper discusses a follow-up study of 8th and 9th grade public school students who were assessed, through group interviews, for their recall of important archaeology concepts and their lasting impressions of their 5th grade archaeology experience. This study found that many remembered the basic concepts and recalled their archaeology experience, particularly the field component, positively.

Henderson, David (Cotsen Institute of Archaeology, UCLA)

[58] *Archaeology and Hydrology of the Ancient Raised Fields in the Taraco Region of Northern Lake Titicaca*

Detailed ground/aerial photographic survey around Taraco revealed that residual raised

fields, while deteriorated by modern farming, are identifiable. We have found more than 50km² of raised fields in this area, making it comparable with the Huata and Pomata complexes. Hydrological calculations show how the fields would perform under variability of altiplano rainfall. We find that Rio Ramis, unlike water from runoff or qochas, would have been a surprisingly dependable source. Variation in location, size and complexity of the fields identified may reflect increasing complexity of underlying economic and political systems as the region developed.

Henderson, John (Cornell University) and Rosemary Joyce (University of California, Berkeley)

[227] *Formative Honduras and Olmec style*

Excavations in northern Honduras produced evidence of local expressions of widely shared Formative Period material practices and visual imagery often interpreted as signatures of the Gulf Coast Olmec. Interaction with other regions is clearly indicated by obsidian compositional analyses. Pottery with widespread Mesoamerican imagery is locally made at Puerto Escondido. Iconographic analysis demonstrates unique Honduran choices of theme, medium, and scale in pottery, and later in greenstone figures and monumental sculpture. The use of cacao beverages is a precocious practice at Puerto Escondido. These findings challenge the idea that Honduran communities were asymmetrical receivers of "influence" from other regions.

Henderson, John [61] see *Tchakirides, Tiffany F.*

Henderson, Lucia (The University of Texas At Austin)

[155] *A Common Space: Lake Amatitlán and Volcán Pacaya in the Cosmology of Highland Guatemala and Escuintla*

This paper addresses the crucial role once played by Lake Amatitlán and Volcán Pacaya in the lives of surrounding Maya groups, focusing particularly on the manner in which the region is represented in the archaeological record of Kaminaljuyú and Escuintla. The myriad ways in which this landscape was integrated into the iconography and ritual of these areas demonstrate that it occupied a particularly sacred place in the cosmology of diverse populations. In other words, Lake Amatitlán and Volcán Pacaya crossed linguistic and ethnic boundaries, profoundly affecting, even shaping, the way in which a diverse region viewed its world.

Hendon, Julia (Gettysburg College)

[14] *Neighborhoods in Prehispanic Honduras: Exploring Settlement Patterns and Social Groupings within Communities or Regions*

The large site of Cerro Palenque and the Copan Valley, both in Honduras and both at their peak during the Late to Terminal Classic periods, serve as the starting point for this analysis. The paper explores what can be learned about these societies through the study of how domestic and monumental buildings are clustered within the community, in the case of Cerro Palenque, or region, in the case of Copan, as a whole. The paper aims to work at a scale intermediate between that of the individual building or group of structures and that of the entire site or region.

[77] *Discussant*

Hendon, Julia [16] see *Joyce, Rosemary*

Hendrickson, Mitch (University of Sydney/University of Calgary)

[141] *Location, Location, Location!! Transport, Settlement and Resource Procurement Models in Angkorian Southeast Asia*

The Angkorian Empire stretched across vast parts of mainland Southeast Asia between the 9th to 14th centuries CE required access and control over vast resources in order to maintain its day-to-day operations. This paper uses a Geographic Information System to compare the location of specific resources (e.g., comestible goods, industrial materials) in relation to the major sites and their connectivity, or non-connectivity, to the Angkorian road system. By emphasizing the location and degree of formalized transport and communication it is possible to assess the regional and temporal importance of individual

sites in the landscape.

Henrikson, Lael (Center for Archaeological Research)

[278] *Developing a Prey Choice Model for the Terminal Pleistocene/Early Holocene on Idaho's Snake River Plain*

In investigating the role of bison in aboriginal subsistence on the eastern Snake River Plain, hypotheses generated through the quantitative analysis of behavioral ecological models can be evaluated against archaeological evidence within the region. Although a prey choice model comparing the net caloric return rates of bison with other available resources has already been developed from sites dating to the middle and late Holocene, our current understanding of prey choice on the Snake River Plain during the terminal Pleistocene/early Holocene is extremely poor. Additional research at Owl Cave can potentially provide tremendous insights into human subsistence during this time period.

[278] *Chair*

Henry, Edward (University of Mississippi), Christopher Moore (University of Kentucky) and Maureen Meyers (University of Kentucky)

[129] *Geophysical Prospection on the Mississippian Frontier: 2007 Survey Results from the Carter Robinson Mound Site (44LE10)*

A geophysical remote sensing survey was conducted at the late prehistoric Carter Robinson mound site in southwest Virginia. The goal of this survey was to identify the location of features in both mound and non-mound areas, including a small topographic rise east of the mound. Multiple features were identified and tested. Excavation revealed a large burned structure north of the mound, and a second structure on the small topographic rise. More testing is needed to determine the nature of this rise and the function of these structures. This poster will present the methods and results of this geophysical survey.

Hepp, Guy

[314] *Formative Era Oaxacan Figurines and the Mimetic Faculty*

This paper uses theories related to mimesis, alterity, and the development of human sociality to propose a hypothetical reconstruction of the social contexts of ceramic figurines as they functioned in ancient coastal Oaxaca, Mexico. The construction and use, perhaps during public ritual, of such miniature ceramic models exemplifies what has been termed the 'human mimetic faculty.' Figurines represent the interests of an ancient people who sought to mimetically capture the essence of humans, animals, ancestor spirits, and perhaps characters from spiritual realms through the production of small-scale depictions.

[314] *Co-Organizer*

Herbert, James (Simon Fraser University)

[44] *Plant Use and Social Complexity: Some Considerations.*

The large time period between the initial domestication of plant species in the southeastern United States (circa 6000-4000 B.P.) and their sudden increase in economic importance (circa 2000 B.P.) is severely understudied. The lack of research from this time period is problematic for archaeologists seeking to address the complex relationships between increasing plant use and social complexity. This paper will call attention to this apparent information deficit by analysing the available data and demonstrating a need for further research within this 2000 year period.

Herbst, Holly (PAL) and Deborah C. Cox (PAL)

[63] *Tales of Two Islands: History and Archaeology in the Bahamas*

Proposed large-scale development on Cat and Mayaguana islands has been preceded by cultural resource management studies, undertaken by PAL in consultation with the Bahamian government. Mayaguana, as an outlying island with little fresh water, has limited archaeological potential and a relatively short cultural history. Cat Island, by contrast, contains many archaeological sites and a long and diverse record of occupation and habitation. This paper examines the differing research strategies used to document cultural resources on each island.

Herhahn, Cynthia (Office of Contract Archaeology - University of New Mexico)

[119] *Organization of Technology over a Millennium: Comparing Lithic Assemblages from a*

Multi-Component Archaic/Early Navajo Site near Lybrook, New Mexico

Recent data recovery by the Office of Contract Archeology, University of New Mexico

MAPL project near Lybrook revealed a Late Archaic structure dated to 1201-900 cal B.C.

and a Dinetah phase midden area dated to A.D. 1450/1500-1625. Results of artifact analysis from both components are reported, and provide data on Archaic period structures and early Navajo subsistence. The juxtaposition of two presumably semi-mobile occupations separated by a millennium provides the opportunity to compare the organization of lithic technology and relate it to residential mobility.

Hermann, Willi [4] see Condon, Peter C.

Hernandez, Hector (Facultad de Ciencias Antropológicas UADY)

[77] *Identidad social y cultura material de los grupos domésticos de Yaxuna, Yucatan*

En esta ponencia se propone que, a partir de la etnoarqueología, el análisis de los patrones espaciales domésticos y las observaciones y entrevistas etnográficas sobre la cultura material contemporánea estamos en posibilidades de tener una comprensión de aspectos como el rango, la división del trabajo y la distribución de las actividad; elementos que conforman la identidad social de los grupos domésticos de la comunidad de Yaxuná, Yucatán. Desde esta perspectiva, considero necesario intentar comprender de qué manera la cultura material es portadora de señales y cómo se manifiestan dichas señales en los vestigios materiales observables arqueológicamente.

Hernandez, Ruben (Universidad Nacional Autònoma de Mèxico)

[242] *Paisaje e identidad entre los matlazincas: Una aproximación*

En la actualidad, la Arqueología se halla en una búsqueda por trascender el papel tradicional como disciplina descriptiva-cuantitativa, por uno más dinámico que busca dar interpretaciones acerca de las sociedades del pasado. Líneas de investigación como la Arqueología del paisaje aspiran desde una perspectiva fenomenológica, aproximarnos a una comprensión diferente de las sociedades preteritas. La presente ponencia se enfoca a valorar la importancia de los conceptos de paisaje, espacio y lugar para explicar la organización sociopolítica étnica matlazinca en el valle de Toluca durante el posclásico temprano (900 – 1200 d. C.).

Hernández Flores, Rocío [32] see Jimenez, Jose C.

Hernandez Llosas, Maria (Consejo Nacional De Investigaciones Científicas Y Técnicas), Alan Watchman (Aldershot Resources, West Perth, Western Australia) and María de la Luz Gutiérrez Martínez (Instituto Nacional de Antropología e Historia, Baja California Sur, México)

[32] *Giant Mural Rock Art and Human Occupation during Early Holocene in Central Baja California*

In the year 2000 an integral project of archaeological research started in the sierra de Guadalupe, BCS. Especial effort was devoted to enhance the knowledge about the rock art chronology, dating with radiocarbon some of the most representative panels and motifs, with results that suggest a considerable antiquity. The research produced important information regarding not only the rock art chronology but also the process of production of the paintings, suggesting the great significance that they had for the people that create them. This paper presents and discusses some of the numerous results this Project achieved.

Hernandez Sanchez, Gilda (Universiteit Leiden)

[138] *Recent Research on Codex-Style Mixteca-Puebla Pottery*

Presented here are the results of an iconographic study of the codex-style painted ceramics of the Mixteca-Puebla style (Late Postclassic period, AD 1250-1521), found in the present-day Mexican states of Puebla and Tlaxcala. The modern interest on these artifacts stems from the beginning of the twentieth century, when it was recognized that the motifs depicted on them were part of the iconographic corpus of Mixtec codices, and it was

proposed that they had a ceremonial use. Both ideas are confirmed by the present study. Discussed here is their use for ritual purposes, specially as serving ware for feasting.

Herr, Sarah (Desert Archaeology, Inc.)

[111] *The Scouts of Camp Geronimo*

The boy scouts who re-enacted the life of the “noble savage” at Camp Geronimo, on the banks of upper Tonto Creek did not know that their camp overlay one of the earliest settlements in the region. Although Early Agricultural period points were commonly curated by later residents, this is the first settlement defined in the sub-Mogollon Rim region, and remains the best preserved. Data from this, and five other sites allow preliminary interpretations about subsistence and settlement patterns, the production of bifacial tools, and relationships with contemporaneous settlements of the Colorado Plateau and Basin and Range during this period.

Herr, Sarah [45] see Sliva, Jane**Herrmann, Jason and Jesse Casana (University of Arkansas)**

[206] *Climate and Settlement Dynamics in the Rub' al-Khali Desert, Dubai, UAE*

While human settlement proliferated in the Rub al-Khali desert of southeastern Arabia during a moist interval in the mid-Holocene (7000-4000 BC), environmental conditions are thought to have been too harsh to support permanent occupation in subsequent periods. However, the Dubai Desert Survey has recently recorded several archaeological sites located far from modern hydrologic resources that suggest permanent desert settlement as late as the Iron Age (c.500 BC). The existence of these sites challenges a presumed linear relationship between settlement and climate change, and instead supports more complex models for human-environment dynamics in arid regions like the Arabian Desert.

Herrmann, Jason [165] see Casana, Jesse**Herrmann, Nicholas (University of Tennessee), Katherine Spradley (University of West Florida), Rebecca Wilson (University of Tennessee) and Sarah Price (University of South Alabama)**

[93] *The Bioarchaeology of the Plash Island Site (1BA134), Alabama*

During mitigation efforts at the Plash Island site (1BA134) in Baldwin County, Alabama, numerous Native American burials were encountered. The burial sample consists of individual internments, isolated crania and a multiple-use burial facility. The burials represent one of the largest prehistoric skeletal samples recovered from the Alabama coast. As such the collection offers unique insight into coastal adaptation by Woodland and Mississippian period populations in the region. This presentation summarizes the mortuary and osteological data and compares the Plash Island community to other prehistoric and contact period Native American populations from the Gulf coast.

Hesse, Jerome (SWCA Inc.) and Stephanie M. Whittlesey (SWCA Environmental Consultants)

[111] *New Light on the San Pedro Phase: Investigations at Las Capas, Arizona*

SWCA Environmental Consultants excavated Middle Preceramic Period and San Pedro phase components at Las Capas, located along the Santa Cruz River in the Tucson Basin. Our work revealed a substantial early San Pedro phase settlement with well-built pit structures, thousands of processing and storage pits, and irrigation features. Early maize dates and irrigation features indicate that cultivation was important, but there remained great reliance on wild-plant resources, such as high-density crop weeds. Repeated floods and periodic silting of canals demonstrate the precarious nature of early agriculture in floodplain environments.

Hester, Thomas (Prof. of Anthropology, Emeritus) and Shafer Harry (Texas A&M)

[267] *Lessons and Accomplishments from Colha, Belize CA*

This paper highlights some of the major accomplishments of the Colha Project from 1979-1995. Colha was the major chipped stone production site in Northern Belize from the Late Preclassic through the Early Postclassic. Goals of the Colha Project were to study the

organization and evidence of lithic craft specialization and how the production changed through time. Formal tool production was sensitive to technological styles of biface manufacture and to regional socio-political trends. Production-consumption models for the Late Preclassic and Classic periods were possible only with the extensive formal tool production evidence from Colha.

Hetrick, Chris, Alex Miller (Northwestern University), Cynthia Robin (Northwestern University), Jim Meierhoff (University of Illinois Chicago) and Yasmine Baktash (Northwestern University)

[302] *Administration and Residence at Chan's Site Core*

This paper explores the residential areas of Chan's leading families and evidence for community administration. Leading families likely resided in buildings along the northern edge of Chan's central plaza and within two plazuela groups east of the site core. Although these were Chan's largest residences, with over 1 meter high stone platforms, pole and thatch houses surmounted these platforms. Only one building at Chan had masonry walls and a vault. This two-story construction was located at the south edge of Chan's central plaza. It appears to be an audiencia style building and provides evidence for community administration and adjudication.

Heupel, Katherine

[46] *Reading and Recounting the Past in the American Southwest: Archaeological Survey of the Rio Grande Gorge*

This presentation will offer the recent findings from the 2007 season of a project designed to conduct an archaeological survey of the Rio Grande Gorge in Taos County, New Mexico. The survey was conducted along the southern portion of the gorge, sampling sites from Pilar, New Mexico to the Gorge Junction Bridge. Materials found included lithics, ceramics, petroglyphs, pictographs and some historic materials. Of interest to the survey is not simply documentation of sites and glyphs, but an understanding of the significance of the gorge to people through time, an understanding approached through a consideration of both material culture and oral compositions.

Hewitt, Barbara (University of Western Ontario), Brian J. Fryer (University of Windsor), Christine D. White (University of Western Ontario), Fred J. Longstaffe (University of Western Ontario) and J. Marla Toyne (Tulane University)

[274] *The Aqlla of Túcume? Biogeochemical and Bioarchaeological Analyses of 19 Individuals Buried at Huaca Larga*

Archaeological evidence suggests that 19 individuals who were apparently sacrificed and buried in Huaca Larga at Túcume, Peru, may have been young women described in Spanish chronicles as Aqlla, or royal weavers. According to these documents, the Aqlla were brought at the command of the Inca from all parts of the empire to special houses for training as weavers, and many were offered as sacrifices upon the death of their lord. Biogeochemical and bioarchaeological data obtained from the remains of these individuals are analyzed in this study for the purpose of testing the veracity of these ethnohistoric accounts.

[274] *Co-Organizer*

Hicks, Frederic

[277] *The Architectural Features at Cerro Portezuelo*

Excavations at the site were begun by George Brainerd in 1954 and continued in 1955, but he died before a projected 1956 season materialized. Except for a few small structures higher on the hill, no signs of structures were visible on the surface. Architectural features revealed by excavation included a platform structure with associated caches that suggest a Middle Classic date; platform structures of the Epiclassic; and a residential complex which may span the Early and Late Postclassic. This included a sunken patio, a free-standing shrine, habitational rooms, and other features. Construction materials included stone, adobe brick, and tepestate.

Higueras, Alvaro

[37] *The Evolution of Cultural Heritage Management in Peru: Decision-Making and Policies for the Preservation of Heritage*

Cultural Heritage Management is a long-term and integral strategy for planning the development of a valley or a region for its preservation and the dissemination of its cultural heritage resources to the public. CHM's strategy is not unlike a multidisciplinary research project, which is threaded by a set of successive and linked phases: planning, study, preservation, presentation, promotion, sustainability. This contribution surveys the evolution of CHM projects in the political and economic context of today's Peru while exploring the new trendy topic of sustainability in the management of a very diverse and complex cultural heritage.

Hildebrand, Elisabeth (Stony Brook University) and Timothy Schilling (Washington University in St. Louis)

[204] *Organized living: An early granary complex on Sai Island, Sudan.*

Plant food production in Sudan is first documented in the form of domestic wheat and barley at Sai Island c. 4200 bp. It may have been catalyzed by local or non-local hierarchical societies, or involved gradual processes of down-the-line technology transfer among largely egalitarian groups. Sai Island on the north Sudanese Nile offers an unusual range of data to address this question: site 8B52A has > 100 granaries dug into mudstone bedrock. We offer a theoretical framework for using multiple lines of evidence to assess local vs. non-local influence, and hierarchical vs. heterarchical or egalitarian impetus for early farming.

Hildebrandt, William R. [36] see Whitaker, Adrian; [57] see McGuire, Kelly

Hill, Austin (University of Connecticut)

[309] *Specialized Herd Management Strategies in the Chalcolithic: the Fauna from Tel Tsaf, Israel*

The Chalcolithic period in the Near East has been claimed to be a period of momentous subsistence change. However, economic changes such as the so-called secondary products revolution have rarely been investigated through intensive faunal analysis. The fauna from the Middle Chalcolithic site of Tel Tsaf in the Jordan Valley, Israel is an ideal collection for addressing the development of novel herd production strategies. Recent results document the degree of specialization in herd management strategies for products such as dairy and labor.

Hill, Brenda

[214] *Late Holocene Climate Reconstruction of Range Creek Canyon, Utah, Through Stable Isotope Analysis of Tree Rings*

Range Creek, Utah contains a virtually untouched archaeological record of local Fremont adaptations. In general, the Fremont are characterized as both foragers and farmers who, along with neighbors to the south, disappear as an archaeological complex at around 1300 A.D. Utilizing stable isotope ratios found in the growth rings of trees, I reconstruct climate history for the Range Creek area over the past 3,000 years and investigate the possibility of climate as an impetus for agricultural abandonment. Tree-ring climate reconstruction provides nearly perfect annual resolution and allows confidence limits to be calculated allowing for accurate fine-scale climate reconstruction.

Hill, Brett (Hendrix College), Alexandra Miller (Arizona State University), C. Michael Barton (Arizona State University) and Elizabeth Wentz (Arizona State University)

[224] *Archaeoclimatology and Ancient Mediterranean Landscape Dynamics*

An interdisciplinary research project to study long-term interaction of human and natural systems in Jordan and southeastern Spain allows comparison of similar landscapes with different Holocene socio-ecological histories. Paleoclimate is critical to reconstructing ancient vegetation, and to understanding land use decisions and their consequences for landscapes during the early development of agriculture and pastoralism. New techniques of retrodicting, interpolating, and validating paleoclimate models provide marked improvement

over traditional spatial interpolation of climate parameters, and offer informative comparisons with proxy measures as well as independent indices for evaluating their interpretation.

Hill, David (Paleoresearch Institute, Inc.)

[62] *Variability in the Production and Use of Ceramics by Athapaskan Speakers in the Western United States*

Athapaskan-speakers across the western United States produce ceramics. Understanding the sources of variation including materials, the function of vessels, and relations with adjacent cultures are required to place the production of ceramics by Athapaskans within a larger behavioral context. This paper will focus on the examination of ceramics produced by Athapaskan-speakers and their neighbors to understand issues regarding how regional differences in geology and contact with peoples from other societies shaped the appearance of their ceramics.

Hill, Erica (University of Alaska Southeast)

[294] *Walrus Exploitation in the North Pacific*

The Pacific walrus has long played a central role in Eskimo societies of Bering Strait—as food and as a source of hide, tusk, and bone. I examine the role of the walrus in Eskimo subsistence prior to European contact with reference to the faunal remains of key sites in the North Pacific and present new data from the site of Unanan on the Chukotka coast. I discuss the evidence for cooperative hunting of walrus and evaluate Krupnik's (1993) assertion that walrus hunting, perhaps as much as whaling, contributed to the development of social complexity in the North Pacific.

Hill, Erica [17] see Odess, Daniel

Hill, Genevieve (University of Exeter)

[295] *Wetland Alternatives: Exploring prehistoric wetland use on the Northwest Coast*

Few waterlogged sites have been excavated on the Northwest Coast, and even fewer of them can be classified as wetlands (bogs, mires, marshes etc.) Ethnobotanical accounts suggest that wetlands were frequently exploited by First Nations groups for various purposes. Due to the great expense, difficulties in excavation and widespread academic focus on dryland sites, we are left with little archaeological material from wetland landscapes. This paper will explore various ways to study the uses, and possible perceptions, of wetland landscapes by indigenous groups on the Northwest Coast in the prehistoric period.

Hill, Jane (University of Arizona)

[270] *Borrowing names and knowledge: The Northern Uto-Aztec expansion and the botanical lexicon*

Uto-Aztec speakers expanded across many phytogeographical zones, sometimes extending native plant names, often encoding useful information, to label novel plants. But they also borrowed foreign plant names. These borrowed names must have some value, since they are preserved in something like its original form even when knowledge of the source language is lost. What is the role of these meaningless foreign labels in systems of nature knowledge? Is there any difference in the kinds of plants that get extended native names, and those with borrowed labels?

Hill, Mark (Washington State University)

[305] *Distribution of Late Archaic Populations in the Upper Great Lakes*

The late archaic is a dynamic time in the upper Midwest. Elaborate mortuary systems such as Red Ocher and Glacial Kame appear, extensive trade networks develop, and significant social changes occur. Several researchers have proposed that the movement of exotic goods across the region occurs as items are traded or gifted between neighboring groups, perhaps in the formation of alliances and social networks. Yet where and who were these different groups? This paper examines the distribution of sites in the upper Great Lakes, corrected for varying discovery factors, in an attempt to determine the distribution of different late archaic populations.

Hill, Matthew (University of Iowa)

[184] *Changes in Great Plains/Rocky Mountain Paleoindian faunal use and prey physiology: a response to environmental change or hunting pressure?*

For decades researchers have speculated whether changes in Paleoindian fauna use and physiology were responses to environment change or result of human predatory pressure, or both. This paper explores this debate with data from 60 Great Plains and Rocky mountain faunal assemblages. One dataset measures changes body size and age profile in bison, and the other examines the type of small and medium game recovered from Paleoindian faunal assemblages. The results of this study suggest a number of environmental factors contributed to the body size reduction in bison, and related to changes in regional foraging efficiency and diet breadth.

Hill, Matthew (Iowa State University) and David J. Rapson (Iowa State University)

[184] *Unresolved Taphonomic Histories, Interpretive Equivalence, and Paleoindian Faunal Exploitation*

Large scale inferences addressing Paleoindian faunal exploitation are grounded in direct zooarchaeological evidence from only a handful of sites that, collectively, encompass large geographic areas, long time spans, and diverse site settings. Research and documentation protocols amongst these key assemblages are highly variable and too often characterized by unresolved taphonomic histories. In order to make sense of this situation, interpretive equivalency has traditionally been assumed, either explicitly or implicitly, with statements about diet and subsistence activities couched in terms of monolithic, time-averaged behavioral summaries. Drawing on examples from our research, this paper outlines a series of analytical tools designed to move inferential methods in zooarchaeology beyond static, monolithic generalizations toward more specific details of resource selection and carcass transport and processing, with implications for social organization, mobility, and technology.

[199] *Discussant*

Hill, Rebecca (Arizona State University) and Lorrie Lincoln-Babb (Bioarch LLC)

[20] *Hohokam Classic Period Health: Centuries of Decline?*

Based on new data from Pueblo Grande, a previous assessment of increased stress throughout the Hohokam Classic Period may have been overstated. Environmental degradation was evident and the people were leaving, but did the remaining population experience a dramatic decline in health? Demographic and health data collected from 362 'Early' burials (late Sedentary/early Classic; A.D. 1000-1275), 103 'Late' burials (late Classic/post-Classic; A.D. 1275-1450), and 467 undatable burials are used to determine if a significant change in health between the Early and Late populations existed. The variables studied include life table statistics, general indicators of stress, and specific indicators of infection.

Hill, Rebecca [46] see Meegan, Cathryn

Hill, Wayne (Six Nations Archaeology)

[145] *Six Nations Archaeology Defining our Relations in Ontario Archaeology*

My paper will focus on Six Nations archaeological, ideologies and cultural values, developed by my experiences working within the Cultural Resource Management field in Ontario archaeology. As it stands in Ontario, the governing body the Ministry of Culture (MOC) has developed polices and protocols without consultation or involvement of the Six Nations people.

Hillier, Maria (Max Planck Institute for Evolutionary Anthropology), Florbela Estêvão (Municipal Township of Loures (Portugal)), Nathalie Antunes-Ferreira (University of Coimbra, Centro de Investigação em Antropologia e Saúde (Portugal)) and Rui Boaventura (University of Lisbon (Portugal) and University of Louisville (KY, USA))

[215] *Cutmarks on human remains from the Dolmen of Carcavelos: evidence of dismemberment and defleshing from the Late Neolithic/ Chalcolithic Period in Portugal*

The Dolmen of Carcavelos is a Late Neolithic/Chalcolithic funerary monument located in

central coastal Portugal. Recent analysis of skeletal remains from the dolmen (MNI=81) revealed the presence of cutmarks on crania (parietal bones) and on long bones near joints. Micro- and macro-imaging and comparison with other cases of prehistoric and historic cutmarks was undertaken to confirm the nature of the alterations. These alterations have been interpreted as body preparation including dismemberment and defleshing. These cutmarks will be discussed in context with the present debate concerning the use and re-use of Megalithic funerary monuments as areas of primary and/or secondary burials.

Hillson, Simon [276] see Larsen, Clark Spencer

Hilton, Michael (Cotsen Institute of Archaeology At UCLA)

[259] *Soil Micromorphology as Analytical Technique: Field Hypotheses Confirmed and Contradicted*

Despite a growing corpus of innovative applications, soil micromorphology continues to be an under-utilized analytical technique in archaeological contexts. This observation is particularly valid in New World contexts. The relative rarity can be attributed in part to a lack of awareness regarding micromorphology's untapped potential. This paper advocates a more vigorous application of the technique. Toward that end I cite case studies that demonstrate how the technique can both confirm and contradict site formation hypotheses first proposed in the field. I emphasize micromorphology's broad potential with examples from geoarchaeological contexts as diverse as coastal Alaskan middens and arid Israeli tells.

Hingston, Melanie [256] see Matisoo-Smith, Lisa

Hinman, Miriam (Harvard University), Cheryl Makarewicz (Harvard University), George Cody (Carnegie Institution of Washington) and Noreen Tuross (Harvard University)

[168] *Isotopes, collagen, and degradation: New evidence from pyrolysis GC-MS and solid state carbon-13 NMR*

Degradation of archaeological collagen changes its carbon-to-nitrogen ratio, suggesting molecular alterations that could shift isotopic ratios used to estimate diet. We use pyrolysis GC-MS and solid state carbon-13 NMR to track molecular changes in collagen as C/N increases. Major chemical transformations begin at a C/N of 3.2, not 3.6. For degraded collagen, Pyr/GC-MS yields fewer products of multiple compared to single amino acids, while Pyr/GC-MS and NMR show oxygenated alkanes. This suggests collagen degradation involves denaturation and deamination of R-group nitrogen, then hydrolysis, deamination of peptide nitrogen, and association with non-collagen compounds or alkane formation from deaminated amino acids.

Hinojo, Adriana (Centro INAH Sonora) and Dai Elihu Blanquel Garcia (Centro INAH Sonora)

[198] *Shell Artifacts from two prehispanic sites near Cumpas, Sonora, Mexico*

The study of shell goods founded at recent excavations of two prehispanic sites located near the town of Cumpas, Sonora, Mexico, will allow us a better comprehension about the relevance of this kind of goods in the daily life of this sites ancient inhabitants. Also, we could get a glimpse of the relationship nature between the Sonoran coast cultures and the people who lived in this poorly studied area known as the Serrana.

Hirth, Kenneth (Penn State University) [248] *Discussant [248] Co-Organizer*

Hiscock, Peter (Australian National University) and Christopher Clarkson (The University of Queensland)

[143] *Demographic, technological and economic responses to the Younger Dryas in Australia*

The Younger Dryas hit Australian Aboriginal populations that appear to have been still recovering from severe demographic readjustments during the Last Glacial Maximum. YD reversed post-glacial environmental trends such as rising sea levels, warmer and wetter conditions and a contracting arid zone, and likely had significant affects on demography

and landuse in Australia. In this paper we review archaeological evidence for the impact of the Younger Dryas on humans in Australia, and examine a series of models for shifts in economic, settlement and technological patterns at that time.

Hitchcock, Robert (Michigan State University) and James Ebert (Ebert and Associates)

[270] *Where is That Job? Hunter-Gatherer Information Systems in Complex Social Environments in the Eastern Kalahari Desert, Botswana*

This paper addresses ways in which hunter-gatherers acquire and disseminate information on the natural and social environments in which they reside. Drawing on data from fieldwork among San hunter-gatherers in the eastern Kalahari Desert, Botswana, an effort is made to explain how foragers obtain information (for example, by looking at tracks of animals or talking to other about where jobs are or police or game scouts are operating) and how that information is disseminated. The long-term viability of hunter-gatherer groups is based as much on social information as it is on knowledge about the distribution of natural resources.

[270] *Co-Organizer*

Hockett, Bryan (Bureau of Land Management) and Jonathan Haws (University of Louisville)

[69] *Continuity in Animal Resource Diversity in the Upper Paleolithic Diet of Central Portugal*

Current research shows anatomically modern foragers exploited relatively diverse animal resources throughout the Upper Paleolithic and Epipaleolithic of central Portugal. These include large and medium ungulates, rabbits, birds, and marine resources. Regional analyses indicate continuity in the intensity of rabbit carcass utilization from the Early Upper Paleolithic to Early Holocene. Similar patterns are apparent in large game assemblages although many sites lack necessary taphonomic analyses. Marine resources were utilized as early as 30,000 BP but the intensity of use through the Upper Paleolithic is not well known. The cumulative evidence suggests dietary diversification prior to the Terminal Pleistocene.

Hockett, Bryan [94] see Haws, Jonathan A.; [249] see Louderback, Lisbeth

Hodder, Ian (Stanford University)

[276] *The emergence of 'history houses' at Çatalhöyük*

This paper examines the quantitative evidence for variation in the 'status' of buildings at Çatalhöyük. It is shown that there are positive relationships between the size and architectural elaboration of buildings. There is also evidence that larger and more elaborate buildings have more space for storage and production. When buildings are rebuilt over time, in sequences which may cover 250-400 years, repeated changes occur. Buildings become more elaborate, sometimes larger, and they have more burials. They seem to accumulate 'history'. It is possible that 'history houses' manage to convert productive success into control of ancestors and ritual elaboration.

[177] *Discussant*

Hodges, Charles (Northwest Archaeological Associates, Inc.)

[60] *Spit Growth and Architectural Space of Shell Middens: Three Case Studies in Puget Sound, Washington*

Shoreline features, such as spits, are often sensitive recorders of the land-ocean interface. In this paper I discuss and compare the formation histories and depositional geometries of three archaeological shell midden sites located on late Holocene spits in Puget Sound, western Washington. Though the geomorphic processes responsible for spit formation are similar for all three landforms, local spatio-temporal conditions have created distinct spit histories. By examining changes in spit depositional geometry through time, the creation of archaeological space on these landforms can be related to the geomorphic events and processes of spit emergence and growth.

Hodgetts, Lisa (University of Western Ontario), Edward Eastaugh (University of Calgary) and Pete Dawson (University of Calgary)

[17] *Magnetometer Survey of Pre-Dorset dwellings in the southern Keewatin region of Nunavut*

Geophysical survey techniques are primarily used to document large buried cultural landscapes created by agricultural groups. Here, we describe a gradiometer survey of five Pre-Dorset dwellings from two sites on Maguse Lake, Nunavut, which identified dwelling architecture and consistent patterns in the use of interior space. These results suggest that with the use of a small sampling interval, the technique has great promise for investigating hunter-gatherer sites in the Arctic, particularly given the logistical constraints on Arctic fieldwork.

Hodgetts, Lisa [17] see *Dawson, Peter C.*

Hodgins, Greg (University of Arizona) and Ivan Ghezzi (Pontificia Universidad Católica del Perú)

[292] *The First Sun Day in Peru: Stable Isotope Analysis of Shell Offerings from the Chankillo Solar Observatory*

The fortress site of Chankillo (4th century B.C.E.), in the Casma-Sechin Valley, Peru includes a structure recently identified as a solar observatory. Features of the observatory suggest observations were made from a specific location and excavations there yielded ceremonial offerings: clay figurines depicting elite warriors, shellfish, and other artifacts. The interbedding of offerings with sterile sand suggested episodic rather than continuous use. Marine shell stable isotopes record annual oscillations in ocean chemistry. We are investigating whether such measurements from shell offerings recovered from the Chankillo Observatory can be used to indicate the season in which specific ceremonies took place.

Hodgins, Greg [231] see *Jones, Kevin; [167]* see *Pohl, Christie M*

Hodgson, John (University of Wisconsin-Madison) and John Edward Clark (Brigham Young University)

[227] *Ojo de Agua: Early Monumental Architecture of the Pacific Coast of Chiapas, Mexico*
Our presentation provides the results of investigations of the site of Ojo de Agua in Soconusco, Chiapas, Mexico. Research suggests that large platform and pyramid architecture at the site represents some of the earliest examples for monumental architecture in Mesoamerica. Construction techniques demonstrate sophisticated knowledge of physical properties and characteristics of local soils and clays for use as building materials. The site appears to have been intentionally constructed on a central axis developed around a main plaza. The site was occupied for approximately the 150 years of the Jocotal Phase and contained several examples of stone monuments in Olmec style.

Hoekman-Sites, Hanneke (Florida State University)

[160] *Dairy Intensification in Hungary during the Neolithic and Copper Age Periods?*

This presentation will examine early dairying practices in the Great Hungarian Plain during the Neolithic and Copper Age periods. Previous research has shown that dairy products were being used from the Early Neolithic, but to what extent? How were dairy products used in the Neolithic? And how did the extent and patterns of use change through time? In order to answer these questions, 339 ceramic samples from ten sites in the Körös region were tested using residue analysis. The results of this analysis will be discussed, as well as the implications of the results on animal use patterns.

Hoffecker, John (INSTAAR)

[245] *Assemblage Variability in Beringia: The Mesa Factor*

The Mesa complex was defined by Kunz and Reanier in 1994. Diagnostic artifacts of this complex—primarily lanceolate points with square and concave bases—are found in Alaska and northwestern Canada. They are dated to the Younger Dryas interval (12.8-11.3 cal ka) and broadly associated with bison procurement. In past decades, Mesa artifacts often have been mixed with materials related to other complexes (e.g., Denali) and/or assigned to other industries. When these artifacts are placed into the Mesa complex, the pattern of

spatial and temporal variability in Beringian assemblages of the Lateglacial interstadial and Younger Dryas is clarified.

Hoffecker, John [17] see Mason, Owen K.

Hoffman, Brett (University of Wisconsin-Madison) and Heather Miller (University of Toronto)

[96] *Copper-based Metals in the Indus Economy*

The diversity and number of copper-based objects from Indus civilization sites indicate that copper-based metallurgy was an important aspect of Indus craft production and material culture, but the metals continue to see less work than other artifact types. We update what is known about production information but primarily focus on consumption, particularly ongoing studies of the large assemblage from the urban site of Harappa. We focus on evidence for changes through time and space in production, distribution, and consumption. Through object typologies and a detailed analysis of archaeological contexts, we address the roles that metals played in the Indus economy.

Hoffman, Brian (Hamline University), Linda Chisholm (University of Minnesota) and Ross Smith (Portland State University)

[194] *Late Prehistoric Human Subsistence on the Aniakchak Coast, Alaska Peninsula*

The South Aniakchak Bay Village, a moderate-sized shell midden and house pit site on the Alaska Peninsula's Pacific coast, contains materials deposited over the last 1700 years by three different cultural groups. Preliminary analyses of the faunal assemblage, however, reveal few changes in the inhabitant's subsistence economy. A diverse assemblage of faunal remains, features, and artifacts suggest that each cultural group occupied the site throughout most seasons of the year harvesting primarily cod and salmon, sea otter, tundra hare, sea birds, and shellfish from rocky intertidal habitats. The Aniakchak assemblage exhibits remarkable economic stability despite substantial material cultural changes.

Hoffmann, Tanja (Katzie Development Corporation-Archaeology) and Debbie Miller (Katzie First Nation)

[18] *The Easy Give: Archaeology as Mitigation*

When negotiating mitigation for development-related impacts, archaeology is the easy thing to give. But for First Nations, involvement in contract archaeology has mixed benefits. For example, Katzie First Nation negotiated an agreement intended to offset impacts from a major construction project on their territory. To enhance Katzie's economic participation in the project, an archaeological contract was awarded to a Katzie owned and operated consulting company. The effectiveness of using archaeology as a strategy to offset cultural and economic impacts has had mixed success. For Katzie, indigenous archaeology within a regulatory / business environment is an uneasy fit.

Hofman, Corinne (Faculty of Archaeology) and Alistair Bright (Faculty of Archaeology, Leiden University)

[240] *Mobility and exchange from a pan-Caribbean perspective: an overview*

Prehistoric Amerindian community members participated in interaction networks of human mobility and exchange of goods and ideas, guided by their cosmovision, technology and socio-political organisation. The urge to garner status, thereby defining group and individual identity, and the desire for access to myriad materials and products formed important motivations. This paper searches for interaction networks operating between 6000 BC and the early Colonial period in the Caribbean from a pan-regional perspective. The adoption of a diachronic, broad geographic perspective will help evaluate the structure through time of these social networks at local, archipelagic and - uniquely - pan-Caribbean scales.

[240] Chair

Hofman, Corinne [319] see Panhuysen, Raphael

Hofman, Corinne L. [240] see Hoogland, Menno L.P.

Hogberg, Anders (Malmö Heritage)

[24] *Lithic technology in Scandinavian Late Bronze Age – flint tools, experiments and interpretation*

During Late Scandinavian Bronze Age, blade knives of flint were produced, trade and used. But little is known about how, where and by whom? Based on a technological analysis, several knapping experiments have been conducted, designed to answer these questions. Aspects on technology, production method, chaîne opératoire and raw materials were in focus. A reference collection of waste material from the production were also created, to be used for looking after evidence of prehistoric production places. Experiments and analysis of the archaeological record have resulted in a detailed interpretation of sociotechnical aspects of Late Bronze Age flint artefacts.

Hogue, S (Ball State University) and John V. Dudgeon (Idaho State University)

[99] *The Application of Laser Ablation Time of Flight ICP-MS (LA-TOF-ICP-MS) to Identify Historic Burial Dental Stains*

Excavations at a late 19th century cemetery in 2005 led to the recovery of 16 burials. One individual (Burial 15, a young female), exhibited black stains on the buccal dentition, marked on the anterior maxillary teeth. The unusual color and patterning of the staining made macroscopic identification difficult. We were interested in determining whether contamination was associated with a cultural trait such as smoking or chewing tobacco or if staining occurred posthumously. LA-TOF-ICP-MS and scanning electron microscopy were employed to address these questions. The results show heavy concentrations of iron on the dentition were most likely caused by posthumous contamination.

Hohmann, Bobbi [181] see Healy, Paul F.

Hoil-Gutierrez, Julio (Universidad Autónoma de Yucatán)

[77] *El lak: Continuidad cultural e identidad entre los mayas yucatecos*

En este trabajo utilizo el lak como ejemplo de continuidad cultural, así como de su relación con la identidad de las comunidades mayas contemporáneas. El lak es un objeto cerámico que se identificó epigráficamente en el Período Clásico, cuya función era la de contener alimentos. Durante la Colonia, y hasta la actualidad, el lak aún mantiene su función ritual entre los mayas yucatecos contemporáneos, para quienes simboliza una forma de contacto con algunas costumbres de sus antepasados. Esta continuidad muestra cómo un elemento de cultura material influye la manera en que la gente se identifica con su pasado y presente.

Hokanson, Jeffery [311] see Kempton, Karen

Hokanson, Jeffrey (E2M, Inc.)

[66] *The Four Dimensions of Fire-Affected Rock Features: A Behavioral Approach*

Archaeologists might agree that fire-affected rock has some informative value. They might also agree that such value is low. This paper takes the position that valuable and informative analysis of fire-affected rock features is not only possible but necessary. It is shown that meaningful inferences about the activities that created fire-affected rock features can be developed if one takes the time to examine all four dimensions of the rocks that comprise an assemblage. The usefulness of the approach is illustrated in a case study of fire-affected rock features from a Late Prehistoric component at 5GA3222 in Grand County, Colorado.

Holcomb, Lauren

[130] *Health care in an Irish-American household*

The 2007 Archaeological Field School at the University of Notre Dame investigated the homelot of Irish immigrants, Edward and Rose Fogarty, who immigrated to South Bend in 1865. This poster summarizes the analyses of patent and proprietary medicine bottles recovered during the excavation. Issues of health and well-being, treatment of illnesses, and access to medical care illuminated other aspects of life in the city during the late nineteenth and early twentieth centuries. The social relations of class, gender, and ethnicity were examined to understand how health care was shaped by these dynamic processes.

Holdaway, Simon (University of Auckland), Justin Shiner (Rio Tinto Aluminium), Matthew Douglass (The University of Auckland) and Patricia Fanning (Macquarie University)

[154] *Context in Australian Stone Artifact Studies*

Thirty years ago Arthur Jelinek outlined the essential elements for the study of a record dominated by stone artifacts in "Form, Function, and Style in Lithic Analysis". He discussed the importance of context, raw material access, occupation duration, technology, tool reuse and functional variability at a landscape scale. The results of a dozen years of research on surface scatters of stone artifacts in western New South Wales, Australia, illustrate the contemporary value of Jelinek's observations. Regional patterns are apparent in Australian stone artifact distributions but can be assessed only when the context of individual assemblages is understood.

Holdaway, Simon [169] see Douglass, Matthew J.

Holdridge, Genevieve [276] see Carter, Tristan

Hole, Frank (Yale University) [190] Discussant

Holen, Kathleen (Denver Museum of Nature & Science) and Steven Holen (Denver Museum of Nature & Science)

[128] *New Evidence from the 1935 Lindenmeier Folsom Collection: A Beveled Bone Rod*
In 1935, the Colorado Museum of Natural History, now Denver Museum of Nature & Science, collaborated with the Smithsonian Institution in initial investigations of a Folsom site in Larimer County, Colorado known as the Lindenmeier Site. A recent review of the collection led to the recognition of a beveled bone rod that had not previously been described in the literature. The poster will provide provenience information and descriptive measurements of the artifact along with questions for future research.

Holen, Steven (Denver Mus of Nature & Science)

[184] *The Pre-Clovis Occupation of the Great Plains: A Review of the Evidence*
Lithic artifacts associated with extinct bison and mammoths were first documented in the 1920s and 1930s by the Colorado Museum of Natural History. Clovis was recognized as a distinct culture in the 1940s, and in the 1950s radiocarbon dating placed Clovis chronology at ca. 11,000 rcybp. Clovis then became accepted as the earliest human occupation in North America. Even before Clovis was recognized, claims for an earlier human presence on the Great Plains were advanced. Evidence from several purported pre-Clovis sites is evaluated and some sites are accepted as evidence of a human presence on the Great Plains prior to 12,000 rcybp.

Holen, Steven [128] see Holen, Kathleen A.

Holl, Augustin (Univ of Michigan)

[96] *Early West African Metallurgies: Glosses, Facts, and Fictions*

The debate on West African metallurgies cannot be properly understood without a serious consideration of the Colonial template that featured Africa as the receiving partner in all crucial social, economic, and technological development. The interesting debate that took place that took place in West Africa during the Colonial period was more metatheoretical than factual. These conflicting glosses, despite their complete lack of empirical foundations, have constrained the nature of the archaeological research and oversimplified the main tenets of the varying characteristics of technological innovation. Recent finds that challenge the accepted wisdom generally ignored are discussed in this paper.

Holland, Karl, Hector Neff (California State University, Long Beach), Janine Gasco (California State University, Dominguez Hills) and Michael Glascock (University of Missouri Research Reactor)

[87] *Instrumental Neutron Activation Elemental Analysis of Postclassic and Historic Period Pottery from the Soconusco Region, Chiapas, Mexico*

The Soconusco region of Southern Chiapas, Mexico has long been associated with the

cacao trade. The present study involved the examination of ceramics as a part of that trade system. Instrumental Neutron Activation Analysis (INAA) was conducted at the University of Missouri Research Reactor (MURR) on 96 pottery samples from Postclassic and historic sites in the region. The analyzed sample is compositionally diverse, indicating derivation from a number of local and extra-local production centers. LA-ICP-MS analyses targeted at the clay matrix of the sherds reinforces the results of the INAA study.

Hollenbach, Kandace (University of Tennessee)

[44] *Tracing Prehistoric Plant Use in the Hills of East Tennessee*

The Townsend Archaeological Project, a mitigation project funded by the Tennessee Department of Transportation, recovered food remains of Late Archaic through Cherokee occupants living in Tuckaleechee Cove, nestled in the foothills of the Great Smoky Mountains in east Tennessee. This paper explores changes in the use of food plants over this 4,000 year span, including the development of horticulture, the implementation of corn agriculture, and the inclusion of Old World foods in the occupants' foodways at a locale that lies along various trade routes (e.g. Hopewell) and yet is situated in the hinterlands.

Hollenback, Kacy (University of Arizona)

[45] *Ceramics and Mobility in the Early Pithouse Period of the Mogollon Rim Region: Early Plainware Examples from Hall Point and the Bluff Site*

In the Greater Southwest, models to account for early ceramic assemblages are tied to increasing labor demands for agricultural production, residential mobility, and wide networks of social interaction. Using collections from Early Pithouse Period sites (AD 1-600), especially the Hall Point Site, I analyze ceramic technological variation to understand the mobility of early forager-farmers in the Mogollon Rim region. Two primary objectives are to understand intrasite occupational histories and the scale of regional interaction. The broader implication of this study is an understanding of the movements of people across highly permeable boundaries during the early ceramic period.

[45] *Co-Organizer*

Hollenback, Kacy [10] see Laluk, Nicholas C.

Hollenback, Kacy L. [45] see O'Grady, Caitlin R.

Holley, George, Erik Gooding (Minnesota State University Moorhead), Harold

Watters, Jr. (Southern Illinois University Edwardsville), Michael Michlovic (Minnesota State University Moorhead) and Rinita Dalan (Minnesota State University Moorhead)

[221] *Re-Evaluating the Biesterfeldt Site*

Re-study of the Biesterfeldt site (32RM1) in southeastern North Dakota examines the interpretation of this site as a short-lived Cheyenne intrusion. Geophysical surveys do not indicate catastrophic burning, critical in aligning ethnohistory and archaeology, and have generated questions regarding the internal structure of the village. An evaluation of ethnohistoric and linguistic data concerning the Cheyenne and other groups reveals discrepancies in the ethnogenesis of tribes in the Northeastern Plains. Archeological research in the region suggests a Cheyenne intrusion is too simple a model to fully resolve this site within the local sequence.

Holliday, Vance (University of Arizona) [259] *Discussant*

Holliday, Vance [32] see Gaines, Edmund P.; [32] see Sanchez Miranda, Guadalupe

Holliday, Vance T. [32] see Ballenger, Jesse

Hollinger, R. Eric (Smithsonian Institution, Dept. of Anthropology), Georgette

Kidwell (Spectral International, Inc.) and Phoebe Hauff (Spectral International, Inc.)

[167] *Visible – Infrared Analysis of Red Pipestone Artifacts in the Smithsonian Collections*
Reflectance spectroscopy has become a useful tool for sourcing archaeological mineral artifacts. This technology, in the form of a Terraspec Spectral Analyzer, applied to the Smithsonian's archaeological and ethnological collections, shows a wide range of red

pipestone sources were used at various times and in different regions. While catlinite, the red pipestone from southwestern Minnesota, dominates the collections, use of visually similar pipestone from other sources and the distribution of these, adds to our understanding of the indigenous exchange networks through which they flowed. We also document the catlinite source with in-situ analysis at Pipestone National Monument.

Hollinger, R. Eric [7] see Madden, Gwyn D.

Hollowell, Julie (University of British Col) [271] Co-Organizer [191] Discussant

Holly, Donald (Eastern Illinois Univ)

[19] *When Foragers Fail*

While the collapse of civilizations has long intrigued scholars, the demise of hunting and gathering societies has received little attention. This paper explores reasons for this bias, as well as anthropological explanations for instances of hunter-gatherer "failure." It is suggested that whereas civilizations are often held accountable for their own undoing, the collapse of hunting and gathering societies—when considered at all—is primarily understood as a result of external processes. This paper reconsiders foraging failures with a sensitivity to the role of agency, social relations, and cultural traditions in informing hunter-gatherer responses to social and environmental phenomena.

Holmes, Charles (Gudgel & Holmes, Associates)

[275] *Lithic Technology of the East Beringian Tradition: Sustaining the Cutting Edge*

A cultural system with emphasis on microblade and burin technologies was employed for thousands of years across Greater Beringia. This tool kit was an efficient adaptation to the environmental conditions of the "mammoth steppe." In Alaska this culture is defined as the East Beringian tradition (13,550-14,450 cal B.P.). Hunting technology was based on the composite organic projectile point with microblade insets, a weapon lethal enough to take high ranked animals, e.g., mammoth, bison, and horse. Horses were likely hunted in central Alaska until about 14,000 cal B.P. Mastodons were contemporary with humans in Alaska for at least 1,000 years.

Holson, John [156] see Kahn, Jenny G.

Holven, Adam (Tetra Tech EM Inc)

[95] *A Morphometric Approach to the Late Paleoindian and Early Archaic Lithic Assemblage from the Reese Site, Central Iowa*

The nature of early Holocene hunter-gatherer adaptations in the Midcontinent represents a major gap in our knowledge. While paleoenvironmental data from the region suggest an ecological shift from deciduous forests to expansive prairies, the technological responses of hunter-gatherers to this major climatic transition remain unclear. The lithic assemblage from the Reese site, located in central Iowa, has provided a wealth of information related to Late Paleoindian/Early Archaic mobility and technological organization, and seems ideal to tackle this question. Employing geometric morphometrics, this assemblage is analyzed to track possible correlates between tool morphology and ecological reorganization during the early Holocene.

Homan, Amy (Katzie Development Corporation)

[295] *You say potato I say potato: The role of Sagittaria latifolia among the aboriginal Katzie*

Recent wetsite excavation at DhRp 52 recovered a dense patch of wapato (*Sagittaria latifolia*) and an assemblage of pointed wooden tools found in situ within the peat matrix. Ethnographic accounts discussing the use of wapato among the aboriginal Katzie is inherent, but little is actually known about the degree to which wapato figured in the social organization and economic infrastructure of the region. What then was the role of wapato among the aboriginal Katzie? Can we make inferences suggesting wapato as being a woman's activity? This paper focuses on developing our understanding of incipient agriculture among the aboriginal Katzie.

Homburg, Jeffrey (Statistical Research, Inc.) and Robert Wegener (Statistical Research, Inc.)

[304] *Ancient Dryland Agricultural Soils of Queen Valley, Central Arizona*

Ancient dryland agricultural fields and soils were studied as part of the U.S. 60 Archaeological Project. A suite of physical and chemical soil tests of terrace, rock alignment, rock pile, and uncultivated control soils were used to: (1) determine the long-term effects of cultivation on soil quality; (2) measure soil hydraulic properties; and (3) compare findings with previous agricultural soil studies in Arizona. Results indicate ancient management practices improved the soil quality of agricultural contexts relative to the controls. Cultivated rock mulch and terrace soils have elevated organic matter, nitrogen, available phosphorus, and infiltration levels, and reduced pH values.

Hommon, Robert

[33] *Boom, Bust, and the Rise of Archaic States in Ancient Hawaii*

Intensified interaction with "Kahiki" c. A.D. 1200-1400 altered Hawaii's agricultural, demographic, and political history. Adoption of the newly-introduced staple sweet potato (*Ipomoea batatas*) made possible major expansion of cultivation in lands too arid for previously available crops, resulting in rapid population growth between c. 1400 and 1550. Having reached natural limits, significant agricultural expansion ceased, resulting in near-zero population growth between c. 1550 and 1778. Competition among high-ranked chiefs for newly limited resources and the decoupling of the chiefly and commoner classes contributed to the emergence, during the 17th and 18th centuries, of competing archaic states.

Honeychurch, William and Chunag Amartuvshin (Mongolian Institute of Archaeology)

[190] *Mode, Knowledge, and Mobile Production: Politics and Complexity Among Ancient Mongolian Nomads*

Archaeological studies of pastoral nomadic societies have been invigorated by recent collaborative research projects across the Eurasian steppe zone. This research contributes an important comparative perspective on processes of complex socio-political organization practiced among mobile groups. This paper reports on the results of spatial and environmental analyses of Mongolian survey data in relation to current models for nomadic political complexity and offers additional hypotheses concerning the organization of regional polities of the eastern steppe zone.

Hoogland, Menno (Faculty of Archaeology, Leiden University) and Corinne L. Hofman (Faculty of Archaeology, Leiden University)

[240] *Living in the outskirts of the Taino realm*

The fourteenth-century settlement site of Kelbey's Ridge 2 on Saba, Northern Lesser Antilles has provided evidence of a household compound characterized by house structures, burials and large hearth features. The material culture assemblage shows clear affiliations with the Boca Chica style of the Dominican Republic despite being of predominantly local manufacture. Additionally, its opportune location near the rich Leeward Island banks and on the outskirts of the Taino realm suggest that we are dealing with a late precolonial outpost of one of the Greater Antillean cacicazgos.

Hoogland, Menno [319] see Panhuysen, Raphael

Hooper, John (Arizona State University), Cassandra J. Albush (URS Corporation, Phoenix, Arizona) and Chad V. Kirvan (URS Corporation, Phoenix, Arizona)

[2] *Testing for Buried Features on the Last Ditch Site, Phoenix, Arizona*

The Last Ditch site [AZ U:5:33(ASM)] is an extremely sparse distribution of Hohokam artifacts and features scattered over a large area (~80 hectares). Almost by chance, two prior excavations along narrow corridors through the site discovered deeply buried pre-Hohokam features that were not indicated by any surface manifestations. We describe and evaluate a two-phase testing plan implemented to search for buried features on the rest of the site.

Hooper, Paul [261] see Boone, James L.

Hoopes, John (University of Kansas)

[240] *Establishing Cultural Contexts for Mobility and Exchange Among Populations of the Antilles and the Isthmo-Colombian Area*

A growing body of archaeological evidence suggests that there was ongoing interaction among populations of the Caribbean rim from Archaic times up through the Colonial period. While the intensity of this interaction remains poorly understood, it has become apparent that models emphasizing the Caribbean islands and the Caribbean mainland as separate culture areas may have obscured significant parallels in patterns of technology and changes in social complexity. This paper will evaluate the prehistory of Caribbean Nicaragua, Costa Rica, Panama, and Colombia in the context of new data from the Greater and Lesser Antilles that throws light on patterns of environmental change and cultural mobility.

[59] *Discussant*

Hopwood, David (Binghamton University (SUNY)) and Dawnie W. Steadman (Binghamton University (SUNY))

[99] *Pseudopathology and the Implications for Understanding the Taphonomic Process*

The analysis and interpretation of pathology from individuals uncovered during archaeological investigations must take into account the affects of the taphonomic process. We present examples of pseudopathology resulting from taphonomy. The burials come from several prehistoric Native American sites, as well as the Late Chalcolithic site of Kenan Tepe, Turkey. These individuals demonstrate how various taphonomic forces, including erosion, abrasion and ground water penetration, from different areas of the world and different environmental contexts, can mimic disease processes such as treponematosis. Without careful consideration of taphonomic processes it is possible to misdiagnosis taphonomy as pathology.

Hopwood, Marie (Binghamton University, SUNY)

[315] *Traces of Wear on Ceramics: Food Preparation at a Halaf Period Site*

Our understanding of cuisines prepared in the ancient past is skewed by misconceptions of time. Resulting from stereotypes of earlier societies as being less advanced technologically and therefore unsophisticated in their food, it is dehumanizing to assume that prehistoric peoples ate nothing other than raw meat and gruel. Ceramic use alteration allows for the examination of ceramic vessel usage in food preparation activities through analysis of sooting/carbonization, use wear and absorbed residues. This methodology has been applied to the Halaf coarse ware assemblage from Fystykly Höyük, Turkey, to recreate the community's food preparation activities and how food shaped their labor.

Horowitz, Rachel [214] see Fontes, Lisa M.

Horton, Beth (Washington State University)

[8] *In the Crossfire of Canons: Military Laundresses at Fort Vancouver, Washington*

Fort Vancouver in SE Washington was headquarters for Pacific Northwest military exploration and campaigns in the last half of the nineteenth century. Living onsite in designated quarters were officers and their families, soldiers, and various support workers. Recent excavations at the laundresses' quarters provides material evidence of how these females negotiated their social identities in relation to the military community's expectations during a time of changing perceptions of womanhood and femininity in the larger society. The Fort's long-term archaeological and historical research programs provide contextual and comparative information on social use of material culture by other segments of the community.

Hosler, Dorothy (M I T) and Johan Garcia (MIT)

[96] *Recent Developments in Mesoamerican Metallurgy*

Metallurgy occupies an unusual niche in the Mesoamerican material repertoire. It was introduced to the west coast from South America after the decline of the primary Mesoamerican states. Period 1 metalworkers (after 650 C.E.) used copper, casting bells

and cold working small tools and implements to shape. After 1150 C.E. metalworkers used copper alloys, copper-tin, copper-arsenic, to redesign the objects previously made in copper. On-going archaeological work at sites in the Cuenca de Sayula Jalisco by Johan Garcia and colleagues shows that around 1100 C.E. Jalisco metalworkers with cultural affiliations around Autlan in southern Jalisco used copper-tin and copper-arsenic alloys. At the site of Atoyac also in the Cuenca de Sayula, peoples with local cultural affiliations (Amacueca) also used bronze, and objects made from these alloys and copper-silver appear in a subsequent Tarascan-Amacueca occupation. These Jalisco data provide the first opportunity a decisively link cultural affiliations, dates, and metalworking materials and techniques and provoke new questions concerning the evolutionary trajectory of this technology.

Hottin, Frederic

[189] *Chaîne Opératoire and High-Power Use-Wear Analysis of an Endscraper sample from Southern Québec*

In the course of our master's thesis research, we have investigated endscraper form in relation to its production, hafting, resharpening and utilisation. A technological analysis was conducted on a sample of 290 endscrapers from Late-Prehistoric sites in the Témiscouata area. Completed with experimentations, it led to the elaboration of two distinct chaînes opératoires. Functional analysis using high-power microscopy and experimentation were also conducted on a portion of the sample. The advantages and difficulties of the use of these methodological tools in a northeastern context are discussed.

Houk, Brett (Texas Tech University), Debora Trein and James Barrera (Texas Tech University)

[47] *Royalty, Ritual, and Rubbish: Preliminary Analysis of Two Late Classic Caches at La Milpa's Plaza B*

The 2007 Texas Tech investigations at Plaza B, La Milpa, Belize discovered two Late Classic caches: a plaza-centered cache beneath an apparent altar and a centerline cache at the base of the stairs to Structure 22. The plaza cache included jade beads, ceramic vessels, a ceramic lid incised with a mat design, coral, fish bones, and over 4,000 pieces of debitage. The stair cache contained two eccentric bifaces and marine-related artifacts/ecofacts. This poster presents the context and contents of the two caches and speculates on their significance within the overall ritual program incorporated into the plan of Plaza B.

Houle, Jean-Luc (University of Pittsburgh)

[106] *The Complexity of "Non-Complex" Societies: Mobility and Centrality among Mobile Pastoralists of Central Mongolia*

The tendency for pastoral groups to exploit marginal environments through high mobility and spatially extensive economies has led many scholars to argue that nomadic pastoralism is not conducive to political centralization nor to the emergence of institutionalized social hierarchy without regular interaction with state-level societies, i.e. the 'dependency' hypothesis. However, the Mongolian case is particularly perplexing, since impressive Late Bronze Age monuments suggest the appearance of early societal complexity some time before regular interaction with large sedentary states such as China. Ongoing settlement archaeology in Central Mongolia is slowly clarifying these issues—thus evaluating how complex these mobile pastoralist societies actually were.

House, Michael [276] see Farid, Shahina**Hovers, Erella [115] see Goring-Morris, Nigel; [205] see Belmaker, Miriam****Howard, Steven (The Ohio State University)**

[192] *Paleoethnobotany in the Allegheny Valley of New York*

Paleoethnobotanical remains extracted from various limited excavations in the Allegheny Valley of southwestern New York state offer a diachronic view of local subsistence practices. Located on the Allegheny Plateau, the region's comparatively short growing season results in an ecology that sets it apart from adjacent regions of lower elevation.

Archaeological plant remains reveal that local inhabitants adopted subsistence strategies that slightly varied from those of their adjacent contemporaries.

Howie, Linda (University of Western Ontario) and Elizabeth Graham (University College London)**[257] Power in Production or Power over Production?**

Lowland Maya elites played key roles in shaping patterns of demand, manufacturing priorities and in the circulation of valued cultural materials during the Classic period. In the Postclassic and Colonial periods, did these patterns remain consistent, or did they change? Are emergent patterns connected to changes in elite structure and identity? Does what we know about the production of material culture items provide insight into changing systems of power and the economic implications of such changes? We draw from the results of excavations and pottery studies at Lamanai to address these questions, shedding light on local-level economies of power.

Howse, Lesley (University of Toronto) and Max Friesen (University of Toronto)**[294] Economic and seasonal diversity at the Bell site, Victoria Island, Nunavut: A comparison of Late Dorset and Thule Archaeofaunas**

Late Dorset and Thule Inuit societies were descended from very different cultural traditions, as manifested in technology, social organization, and ideology. However, in the eastern Arctic Dorset and Thule overlapped in space, and probably time, and can therefore be considered to have occupied virtually identical environments. In this paper, we compare the archaeofaunas from Late Dorset and Thule occupations at the Bell site, Victoria Island, Nunavut, in order to understand how these two distinct hunter-gatherer groups differed in relation to economy, mobility, and site seasonality.

Hritz, Carrie (Washington University in St. Louis) and Rita Wright (New York University)**[81] Satellite Remote Sensing Imagery: New Evidence for site distributions and Ecologies in the Upper Indus**

The advent of new technologies such as declassified Corona satellite photography, high resolution Digital Globe imagery and accessible GIS has allowed for the mapping, integration and spatial analysis of regional landscapes. Using a combination of spatial data collected during the Beas River landscape and settlement survey, and data recorded by digital photography and satellite imagery, site distributions can be traced. Mapping relict archaeological settlements and river channel changes, along with collected geomorphological data, one can begin to reconstruction human-environmental interactions in the period of the emergence of urbanism in the Indus valley.

Hruby, Zachary**[16] Inalienable Possessions and the Gods: Understanding Maya Cache Goods and God Effigies**

Ancient Maya cache goods are often seen as offerings to gods, to buildings, or to ancestors, but analysis of cache items suggests that they often had previous use-lives, and were not simply produced for the ritual. If these cache items were used, at least some of them, then how were they socially transformed from one "type" of item into another, how were they collected and chosen, and what might have been the relationship between how they were used before they were gifted to the gods? Of particular interest are god effigies that may not have been perceived as terrestrially owned.

[80] Discussant

Hruby, Zachary X. [257] see Kingsley, Melanie J.

Hua, Quan [169] see Weisler, Marshall I.

Hublin, Jean-Jacques [91] see Steele, Teresa E.; **[154]** see McPherron, Shannon P.

Huckell, Bruce (Maxwell Museum of Anthropology) and David Kilby (University of New Mexico)

[184] *The Beach Cache: A Glimpse of Clovis Lithic Technology and Land Use in Southwestern North Dakota*

Over 35 years ago, at least 140 bifaces and a few blade tools were recovered from a plowed field in southwestern North Dakota. In 2006-2007 we examined over 100 extant, privately-held specimens, and concluded that they represent a Clovis cache. In this presentation we summarize recovery of the cache and results of recent geoarchaeological investigations, and describe the morphology and manufacturing technology of the artifacts. We present preliminary lithic material source assignments for these artifacts, compare this assemblage to other northern Plains Clovis caches, and evaluate what the Beach Cache and others reflect of Clovis land use

[32] *Discussant*

Huckell, Bruce B. [128] see Merriman, Christopher W

Huckleberry, Gary (Geoarchaeological Consultant)

[273] *Geological Context of Shell Midden Sites along the Northern Sonoran Coast*

Geological processes have played an important role in shaping the Sonoran coast and creating foraging opportunities for indigenous peoples. Shallow offshore slopes in the northern Gulf of California result in large tidal ranges and shifts in shoreline due to eustatic sea level rise and localized tectonic uplift. Eustatic sea level began to stabilize ~ 6000-5000 years ago allowing the development of large estuaries and lagoons along tectonically stable segments of the coast. New 14C dates on terrestrial organics from buried shell midden layers indicate that Middle Archaic foragers were utilizing newly formed coastal ecosystems soon after sea level stabilization.

Hudson, Corey and Matthew Boulanger (University of Missouri - Columbia)

[127] *Assessing the 'Grip-ability' of Ceramic Surface Treatments in the American Northeast* Numerous studies have examined the performance characteristics of ceramics. One of the areas that remains to be studied is the comparative ability of surface treatments to allow the ceramic to be easily held – the "grip-ability". This is particularly important when forms assumed to operate primarily as held artifacts, show considerable variability in surface treatment. In the American Northeast this is particularly important because of the significant variation in the types of surface treatment; namely, indentation, corrugation, stamping, as well as others. In this study, the grip-ability is quantitatively analyzed using several measures of mechanical friction.

Hudson, Douglas (University College of the Fraser Valley)

[175] *The Ecological and Social Frameworks of Athapaskan Resource Use in Northern British Columbia*

Athapaskan traditional resource use strategies in British Columbia involved access to various riverine, lake, and terrestrial resources. While kinship groups controlled key production areas, fluctuations in the resource base were accommodated by various strategies to access resources in other areas, facilitated by marriage ties linking groups in the Fraser River, Skeena River (both of which supported salmon runs), and Peace River watersheds. Key fishing lakes also provided an economic fallback in times of diminished salmon runs. These resource use patterns influenced settlement patterns and, by inference, the sharing of technology - likely reflected in the archaeological record.

Hudson, Erin (Cibola National Forest)

[4] *People on the Landscape: Using GIS to Investigate Social Interaction and Community Structure in the Bear and Gallinas Mountains, New Mexico.*

This poster presents the results of a GIS-based settlement pattern analysis of Pueblo II through Pueblo IV period sites on a portion of the Cibola National Forest. Although Forest archaeologists and others have conducted projects in this area, relatively little is known about the prehistory of the region. This study utilizes spatial analysis techniques to illuminate changing patterns in access to sites at a landscape scale. These techniques are

used to identify multi-site communities and they provide insight into social integration and interaction. Significantly, the results allow the Forest Service to anticipate site locations, facilitating better management of cultural resources.

Hudson, Jean (U Wisconsin- Milwaukee)

[312] *Animal Bone and Archaic Life at Kilometer 4, Peru*

Over 100,000 fragments of animal bone from Kilometer 4 have been analyzed. These materials span the different occupation zones and temporal components of the site and provide important insights into ways in which peoples' lives were changing during the Archaic. This presentation looks at some of the broad patterns in shifting dietary emphasis and bone tool manufacture and use, with special attention to their ecological and social aspects.

Huff, Jennifer (University of Washington)

[318] *Why model? the purpose of computer-based modeling and understanding the archaeological record*

With expanded interest accompanying improvements in computational power, advances in economic, biological, sociological, meteorological, anthropological and archaeological theory, as well as increasing technical proficiency of many new workers, computer-based modeling is poised as a promising direction to seek insight into the archaeological record. However, the use of models in archaeological (and general scientific) explanation remains ambiguous. This paper aims to provide a synopsis of theoretical problems regarding the articulation of models, data and archaeological theory in explanation, and to provoke discussion of their effective use in archaeological exploration and explanation.

Huffer, Damien (The Australian National University), Dr. Hirofumi Matsumura (Sapporo Medical College, Sapporo, Japan), Dr. Marc Oxenham (The Australian National University), Dr. Nguyen Kim Dung (Institute of Archaeology, Ha Noi, Viet Nam) and Dr. Nguyen Lan Cuong (Institute of Archaeology, Ha Noi, Viet Nam)

[141] *Man Bac, a Late Neolithic Cemetery and Habitation Site in Northern Viet Nam: Overview and Recent Findings*

The site of Man Bac, c. 3,800-3,600 BP, located on the southern edge of the Red River Delta, northern Viet Nam, was originally excavated over three seasons: 1999, 2001, and 2004/05. Fifty two well preserved burials were recovered, with the majority being subadult ($67\% \leq 15$). This presentation summarizes the more important findings of the Vietnamese-Japanese-Australian team, focused especially upon bioarchaeological and mortuary patterns revealed by initial research. Furthermore, several important preliminary observations from our 2007 excavation season, during which the skeletal sequence was increased to 95 individuals, will be discussed, especially how these observations appear to challenge or confirm previous conclusions. The larger goal of this work is to place Man Bac more firmly within larger environmental, temporal, and subsistence contexts.

Huffman, Thomas (Univ of the Witwatersrand)

[149] *Climate change during the Iron Age in the Shashe-Limpopo Basin, southern Africa*

Recent research refines previous interpretations about the role climate played in the development of Mapungubwe. First, the Medieval Warm Epoch started at about AD1000, rather than 900. Secondly, dry conditions between AD1200 and 1250 affected farming societies over a wide area. Thirdly, Mapungubwe was probably abandoned about AD1300 in part because of cold conditions at the onset of the Little Ice Age, causing more flooding and saturated floodplains. Agricultural failures probably undermined sacred leadership, contributing to Mapungubwe's abandonment and shift in power to Great Zimbabwe.

Hughes, Philip [259] see Woodward, Jamie

Hughes, Richard E. [313] see Peterson, Polly A.

Hughes, Susan (Northwest Archaeological Associates, Inc., Seattle, Washington), Andrew Millard (Department of Archaeology, University of Durham, Durham, U.K.), Geoff Nowell (Department of Earth Sciences, University of Durham, Durham, U.K.), Graham Pearson (Department of Earth Sciences, University of Durham, Durham, U.K.) and Jane Evans (NERC Isotope Geochemistry Laboratory, British Geological Survey, U.K.)

[48] *Anglo-Saxon Residential Mobility and Farming Practices in the Upper Thames Valley, England*

Strontium isotope ratios of tooth enamel reflect dietary intake during tooth formation, and are often used to reconstruct residential mobility. They can also be useful in reconstructing farming practices. Strontium ratios of humans, domesticated animals, and local soils were analyzed from an early Anglo-Saxon cemetery in the upper Thames River valley to ascertain residential mobility and herding practices. The human ratios point to the presence of several non-local women in a predominantly sedentary local population, and limited mobility in herding practices.

Hull, Kathleen (University of California, Merced)

[19] *Thinking Small: Hunter-gatherer Demography and Culture Change*

Archaeological studies of hunter-gatherer groups have naturally focused on subsistence practices and concomitant residential mobility, in part because the subject of study is defined by economic pursuits and organization. Such groups share other important qualities, however, including small population size, low growth rates, and the vicissitudes of kin and intragroup dynamics that accompany such demographic characteristics. This paper uses demographic experience within the lifespan of individuals—rather than economic practices enduring over centuries or millennia—as a point of departure to consider culture change within these societies, employing a time-perspectivist approach with archaeological data from interior central California.

Hulse, Eva (University at Buffalo)

[294] *Soil chemistry and the use of space in Late Stone Age Finland*

Multi-element soil chemistry analysis enhances our interpretations of how people used structures dating to 5500 years ago, near the Ii River in northern Finland. Soil conditions do not favor the preservation of organic remains, but the by-products of organic decay still exist in the soil. By looking at chemical patterns and excavated artifacts and features together, we can map the use of space within the structures. This allows us to make inferences about social organization during a dynamic period in the prehistory of the area.

Humphris, Jane (UCL, Institute of Archaeology)

[272] *Iron Producers of Precolonial Southern Rwanda*

Recent archaeological research has provided extensive evidence for iron production related to the Nyiginya Kingdom. This complements the rich historical and ethnographic record of iron working in Rwanda and the surrounding region. Archaeometallurgical studies enable an understanding of variation and similarities in production techniques through the analyses of remains such as iron slags, technical ceramics and associated archaeological material. The results can be considered within the broader social, economic and political dimensions of the region, allowing for an understanding of the significance of iron both to the producers and the users of this valuable metal.

[272] *Co-Organizer*

Hundtoft, Brooke (California State University Long Beach), Carl Lipo (California State University, Long Beach) and Roberta Thomas (California State University, Long Beach)

[11] *Stylistic Analyses of Stemmed Obsidian Chipped Stone Tools on Easter Island*

The stemmed obsidian chipped stone tools from Easter Island, known locally as mata'a, exhibit tremendous variability in blade shape but have relatively uniform stems. Using measurements made from digital photographs of collections of mata'a across the island, we have generated a stylistic descriptions of stem variability in terms of angle, shape and form. Our analyses of these measurements using techniques rooted in frequency seriation suggest temporal and spatial patterning among the mata'a. This result potentially provides

a means for understanding the details of small-scale interaction among prehistoric populations on Easter Island.

Hunsaker, Lori [173] see O'Connell, James F.

Hunt, Terry (University of Hawai'i)

[249] *The Causes and Consequences of Deforestation on Rapa Nui (Easter Island)*
Rapa Nui has been popularized as the quintessential case of human induced ecological catastrophe and cultural collapse. In this paper, I critically review the evidence and offer perspectives for the causes, chronology, and consequences of the island's ecological transformation. The Rapa Nui record reveals a complex historical ecology for the island; one best explained by a synergy of impacts, rather than the simple reckless over-exploitation by ancient Polynesians. The evidence allows us to disentangle the notion of "ecocide" from the island's demographic collapse (i.e., genocide) that occurred centuries later with European disease, slave trading, and other abuses.

Hurcombe, Linda

[24] *Experimental archaeology, ethnography, and wear traces: integrating three strands of evidence to suggest new chaines operatoires for prehistoric plant processing for cordage and fabric*

Wear analysts have recognised a particular kind of flint tool prevalent in Mesolithic/Neolithic Europe. The tool is variously termed a 'microdenticulate' or 'serrated-edge' flake. It has an intense silica-rich polish showing it was used in a scraping motion. Processing plants to produce cordage and fabric are possible solutions to this functional puzzle. Ethnographic evidence and archaeological remains suggested activities connected with plant bast fibre production. Experiments have shown the activities which best match the archaeological wear traces and the combination of ethnographic, experimental and archaeological evidence has been able to suggest new chaines operatoires for perishable organic material culture.

Hurst, Heather and Francisco Estrada-Belli (Vanderbilt University)

[203] *Preclassic Maya Paintings and Temple Architecture at Cival, Petén, Guatemala*
The Preclassic political center of Cival nucleated around a ceremonial core with monumental architectural constructions, including broad plazas, spectacularly adorned temples, and richly built residential complexes. Investigations at Cival during the 2007 season by the Holmul Archaeological Project focused heavily on conservation, stabilization, and documentation within the ceremonial core of the Preclassic center. Targeted archaeological excavations accompanied this preservation effort. This paper presents a summary of the 2007 season research at Cival, specifically the recent work on the stucco masks and new paintings unearthed in Structure 1 and on their ritual function in the context of early Maya state formation.

Hurst, Heather [297] see Tokovinine, Alexandre A.

Hurst, Winston, Benjamin A. Bellorado (Comb Ridge Survey Project), Catherine M. Cameron (University of Colorado), Hugh L. Robinson (Comb Ridge Survey Project) and Tucker J. Robinson (Comb Ridge Survey Project)

[2] *Raise High the Roof Beams: Early Puebloan Multi-story Roomblock Construction in the Western Mesa Verde Region*

New evidence for early Puebloan multi-story roomblock construction in the Comb Ridge region of southeast Utah raises interesting questions about the genesis of multi-story Puebloan architecture. These structures are unlike previously reported structures of similar age, in their use of typical Pueblo I, thin-walled building technology in structures of significant height, using a cliff as a supporting buttress. The implications of this early experimentation with multi-story roomblock architecture are discussed, including the possibility that the more robust multi-story structures that appeared in the late 800s in Chaco Canyon, New Mexico, may have been inspired by the experience of northern immigrants.

Huster, Angela

[316] *Scraping and Spinning: Maguey Fiber Production at Calixtlahuaca*

Recent excavations of residential structures at the Late Postclassic site of Calixtlahuaca uncovered a variety of tools related to the production of ixtle or maguey fiber, including spindle whorls and large basalt scrapers. Since the site's altitude prevents the cultivation of cotton, maguey fiber may have been of increased importance. Technological aspects of fiber production can be inferred from the types of tools found. I explore the possibility of full or part time craft specialization based on the patterning of these artifacts between the houses and other contexts excavated.

Hutcheson, Charlene

[63] *Spirals in art as a representation of life and religion, with special reference to a spiral weave pattern found on Palmetto ware basketry impressed ceramics, Pigeon Creek site, San Salvador, Bahamas*

The negative basketry impressions found on Palmetto ware are, thus far, the only means of classifying both weave types and organics utilized in Lucayan fiber industry. A spiral weave twill pattern - heretofore unknown in Bahamian basketry - has been identified on Palmetto ware from the Pigeon Creek site (SS1). Spirals have been and remain a recurring pattern in nature, human philosophy, and religion. A discussion of spiral weaves from South America and elsewhere as well as some information on the prevalence and significance of the spiral to ancient cultures is presented.

Hutchings, Richard

[60] *Avulsion as a Driver of Sociocultural Change: Implications of a Late Holocene Interbasinal Nooksack River Avulsion for Fraser/Nooksack Lowland Prehistory*

In physical, biological, and social terms, a watershed acts simultaneously as both thoroughfare and barrier. These conditions may result in a discrete sociocultural system occupying most, if not all, of a river basin. At some time in the Late Holocene, likely within the last millennium, the Nooksack River avulsed from a channel flowing north, where it terminated as one of the largest tributaries to the Fraser River, to a channel west into the Strait of Georgia, where it created a new estuary. New evidence for this interbasinal avulsion demands reconsideration of the sociocultural and archaeological consequences of watershed reconfiguration.

Hutchins, Karen [124] see *Cooper, Leslie*

Hutchinson, Ian (Simon Fraser University) and Aron Crowell (Arctic Studies Center, Smithsonian Institution)

[194] *Great Earthquakes at the Alaska Subduction Zone in the Late Holocene: Do the Radiocarbon Records of Land-Level Change and Village Abandonment Correlate?*

Great earthquakes caused abrupt changes in land level at the eastern end of the ASZ about 800, 1400, 2200–2300, 2600–2700, 3100–3200, and 3600–3700 years ago. The central segment ruptured about 1400 and 2600–2700 years ago, and the western segment about 500, 1000, and 1300 years ago. Activity at 82 archaeological sites appears to correlate strongly with the paleoseismic record. Hiatuses in occupation occurred about 800, 1400, 2200, and 2700 years ago at eastern and central sites. The last two events, and one at about 3200 cal BP are also recorded in the western segment.

Hutira, Johna (Northland Research, Inc), Doug Craig (Northland Research, Inc.) and Miranda Warburton (Northland Research, Inc.)

[132] *An Iconographic Approach to the Origins of Zea mays Cultivation: A Post-Modern Critique utilizing Cosmology, Feminism, and Diffusionist Theory.*

Zea mays production in the Americas has long been understood to have arisen through the introduction of this important crop from Mexico. The socio-political and economic conditions which promoted its spread, and the specific mechanisms that allowed for its spread are neither well understood nor adequately explained. Corn images are present on material culture items throughout the prehistoric cultures of the Southwest, especially on ceramics. Our approach utilizes the cultural and environmental context of particular ceramic pieces with corn iconography to posit an explanation its diffusion that also takes into account its

profound symbolic importance.

Hutson, Scott (Department of Anthropology) and Bruce Dahlin (Shepherd University)
[187] *Long-distance livelihoods among the ancient Maya: a case study from Chunchucmil, Yucatan, Mexico*

Ancient Chunchucmil, an urban center located in northwest Yucatan, Mexico, presents researchers with the question of how a large population could have survived on land not optimal for traditional farming. The Pakbeh Regional Economy Program, a recently completed archaeology project active from 1993-2006, has gathered extensive data to address this question. This paper presents the results of a systematic test pitting program of 150 architectural contexts, representing 12% of the 1250 architectural compounds mapped at the site. The results suggest that archaeologically detectible craft specializations made only a small contribution to the economy. Commerce likely made a much larger contribution.

Hutson, Scott [109] see Magnoni, Aline

Iannone, Gyles (Trent University)

[234] *Maya Archaeology at Minanha: An Introduction*

Ten years of archaeological research at Minanha has generated a wealth of information concerning the economic, social, political, and ideological characteristics of this ancient Maya city-state. This paper discusses the history of the Minanha investigations, with particular emphasis on the larger goals of the project, and some of the more specialized studies that have been conducted to date.

[234] *Discussant; [234]* see Slim, Barbara

Ibarra Morales, Emilio [180] see McClung de Tapia, Emily

Ibarra Rojas, Eugenia [59] see Salgado Gonzalez, Silvia

Ichikawa, Mitsuo (ASAFAIS, Kyoto University), Hirokazu Yasuoka (Hosei University) and Shioh Hattori (ASAFAIS, Kyoto University)

[270] *Environmental Knowledge among Central African Hunter-Gatherers: Types of Knowledge, Intra-cultural Variations and Acquisition Processes*

With simple tools and complicated nature of resources, hunting-and-gathering involves information-intensive technology, requiring deep, wide-ranged and practical knowledge on plants and animals, as well as knowledge of folktales, taboos and ritual performances, which is generally expressive, metaphoric or normative in nature. This study describes various types of knowledge of animals and plants among central African hunter-gatherers, and analyzes the characteristics and interrelationships of these different types of knowledge. It also examines intra-cultural variations in the knowledge, and the acquisition processes that generate such variations, and discusses implications of these results for hunter-gatherers' long-term adaptation.

Iles, Louise (UCL Institute of Archaeology)

[272] *Applying ethnographic presents to archaeological pasts: memories of iron production in western Uganda*

The question of how to make ethnographic models relevant to archaeological interpretations is becoming a more pressing concern in attempts to understand the social mechanics of past metal production. This paper presents the preliminary results of recent archaeometallurgical survey and excavation in western Uganda, and discusses these in relation to the simultaneous, but more informal collection of locally-held knowledge of the iron industries of the more recent past. Together, these highlight the potential for innovation and variation on an individual level, challenging the tendency to present 'definitive' ethnographic metallurgical experiences.

[272] *Co-Organizer*

Immich, Jennifer (University of Minnesota - Twin Cities)

[216] *Animals in Art and Mind*

Animal iconography can be used to illustrate the growing complexity of Iron Age communities in temperate Europe. In this poster the tradition of depicting animals on objects of material culture is examined in comparison to animal bones from burials and settlement remains. This type of comparison allows an investigation of the relationship between cognitive traditions of decorative 'everyday' objects and 'sacred' burial objects to animals in both food and ritual contexts, resulting in an examination of the changing perception of humans and animals. The case study for this investigation is the Iron Age site of the Dürrnberg bei Hallein, Austria.

Inanez, Javier (Smithsonian Institution), Jaume Buxeda i Garrigós (University of Barcelona) and Robert J. Speakman (Smithsonian Institution)

[51] *Technological features of Majolica pottery: differentiation and implications for Archaeometrical studies*

Majolica, one of the most characteristic tableware in Europe and America during the colonial period, is characterized by a creamy buff-light color body and an opaque white tin-lead glaze that coats the outer surface of the vessel. A chromatic decoration usually is applied on top. Colonial period majolica pottery exhibits relevant technological features that differ from European products, adding new factors to the study of colonial pottery in the Americas, with relevant implications on historical archaeology. Analytical examinations were conducted by SEM and LA-ICP-MS.

Ingleman, David (SWCA Environmental Consultants)

[308] *A Context for Missouri River Eagle Traps in North Dakota*

Eagle trap sites are documented in Great Plains ethnographic literature and they are occasionally found in archaeological contexts during river basin surveys. Eagles and their traps remain as important to present indigenous groups as they were to pre-contact groups. However, few studies of this fascinating site type exist. This paper summarizes both ethnographic data and published archaeological evidence of eagle traps and compares them to several traps recently relocated along the Missouri River in North Dakota.

Ingram, Scott (Arizona State University)

[162] *"Megadroughts" and the 15th Century Depopulation of Central and Southern Arizona*
The 15th century depopulation of central and southern Arizona is a classic problem in Southwestern archaeology with no consensus as to its causes. Two severe and sustained "megadroughts" during the late 1300s and mid-1400s in the western U.S. have been identified (by others) using tree-ring reconstructed summer Palmer Drought Severity Indices. These droughts were more severe and prolonged than any witnessed in this region during the period of instrumental weather observations. They are also temporally coincident with the depopulation of central and southern Arizona. This presentation will evaluate the possible influence these events had on the 15th century regional depopulation.

Inomata, Takeshi (University of Arizona)

[16] *The production, exchange, and possession of symbolic objects at Aguateca, Guatemala*

Excavations at the rapidly abandoned site of Aguateca have provided unique evidence on the production, exchange, and possession of symbolically charged objects. Some of them were left in elite residences where high-status artists produced such objects, while others were placed in a storage room of the royal palace. Some items were broken and deposited during terminal rituals of the palace and temples. Artifacts found in these different contexts offer significant information on the nature of their inalienability.

[257] *Discussant*

Inoue, Taisuke

[112] *Abundance and Fertility: A New Interpretation of the 7 and 9 Zoomorphic Heads in Classic Maya Art*

One of the more striking glyphic pairings in Classic Maya writing and art are the "7 and 9 Heads," which are two zoomorphic heads prefixed by the numerals 7 and 9 respectively.

Although a considerable number of studies have been conducted in the past decade, the meaning and function of the 7 and 9 Heads remain unclear. Many researchers have tentatively concluded that the 7 and 9 Heads represent the portal to the otherworld where ancestors and deities reside. However, when the 7 Head appears independently in the hand of figures, it represents a symbol of abundance and fertility.

Iovita, Radu (Dept of Anthropology)

[29] *Reversed ontogenies in stone tools: a new method for investigating use-lives of Paleolithic artifacts*

Resharpening has been used to explain lithic variability within Paleolithic, Paleoindian, and Australian contexts, by proposing that morphological types represent stages in a continuum of re-use. The focus of this paper is to switch the emphasis from individual tool morphology to the geometric properties of the reduction continua. This is similar to comparing ontogenetic trajectories in biological organisms, except that size decreases. The method presented is based on elliptical Fourier analysis of tool contours and its application pertains to comparing bifacial and unifacial industries from the Middle Paleolithic of Europe from a use-life point of view.

[95] *Discussant*

Isbell, William (SUNY - Binghamton) [147] Discussant

Isenbarger, Nicole [63] see Poplin, Eric C.

Ishihara, Reiko

[102] *Music for the Gods: Rain-making Rituals in the Main Chasm, Aguateca, Guatemala*
Recent archaeological investigation in the Main Chasm of the Late Classic Maya site of Aguateca, Guatemala, has provided evidence that a variety of ritual activities took place in spatially distinct areas. Based on experiential, natural phenomena, the natural geomorphology of the locale, and an abundance of musical instruments, I combine iconographic, archaeological, and ethnographic data to suggest that rain-making rituals comprised a primary practice in one particular area of the chasm. Possible political and social implications of these activities as indicated by the associated artifact assemblage are discussed as well.

[102] *Co-Organizer*

Ives, John (Old Saint Stephen's College) [260] Discussant

Jaagumagi, Alyson, Jennifer McKenzie BSc (Carleton University) and Mirjana Roksandic Phd (University of Winnipeg)

[139] *The Importance of Burial Reconstruction: A Case Study from the Muge Valley, Portugal*

Shell middens represent a good medium for bone preservation. Skeletal collections from shell middens of the Muge valley, excavated in the late 19th and early 20th century, contain bones held together by breccia that at least partially preserved the burial position. The burial no 81.46.69 no.14 from the site of Cabeço de Arruda is a burial that allowed almost complete reconstruction of the burial position. We present here the means and the method of reconstruction of the burial from the Muge Valley shell middens and discuss the relevance of reconstruction for our understanding of cultural practices in the Muge Valley.

Jablonski, Nina [75] see Jin, Jennie

Jacinto, Llanos (Centre de Recherche sur l'Amérique Prehispanique)

[98] *Paralelismo e interacción Paracas Nazca y la emergencia del Estado en la cuenca del Río Grande de Nazca*

La transición Paracas-Nazca es entendida como una evolución tanto temporal como sociopolítica de las poblaciones de la costa sur peruana y por ende trata de explicar una génesis de la sociedad Nazca a partir de aquella Paracas. Esta ponencia cuestiona dicha transición, proponiendo más bien un paralelismo e interacción cultural y política entre la cuenca de Nazca y los valles de Ica, Pisco y Chincha, pero igualmente con regiones de la

sierra (1000-100 a.C). De tal dinámica emerge un Estado particular en Nazca capaz por primera vez en la historia de la costa sur peruana de homogeneizarla y articularla culturalmente.

Jackson, Donald [292] see *Carre, Matthieu*

Jackson, H. Edwin [21] see *May, Jared David*

Jackson, Sarah (University of Toronto)

[257] *Producing Power: Textual Documentation of Specialized Resources and the Construction of Difference in the Classic Maya World*

Archaeological understanding of hierarchical differentiation in Classic Maya society rests upon a conception of differential distribution of key materials. These important substances include more than economic wealth, however; an understanding of power and inequality in this context must treat the production and distribution of both tangible and intangible containers of power, and examine the ways in which particular segments of the population controlled these special stuffs. This paper examines emic assertions of power production and control by Maya elites, as documented in Classic-era hieroglyphic texts and imagery, and considers the interrelationship between economic and non-economic aspects of Classic Maya hegemony.

[257] *Chair*

Jacobs, Tedd [311] see *Fruhlinger, Jake C.*

Jacobucci, Susan (Andrew Fiske Memorial Center for Archaeological Research, UMass Boston)

[218] *The Efficacy and Efficiency of Archaeoparasitology Methodologies*

Archaeoparasitology has provided valuable information about the diet, health, sanitation, and social status of past peoples' lives. Currently there is no standard method for extracting human parasite eggs from soil samples as various techniques continue to be employed. Using samples from several historic New England privies, this study examines some of the most popular recovery methods such as flotation and palynological extraction. The efficacy and efficiency of the procedures and the impact of these processes on parasite recovery are measured. This analysis recommends standards for methods of parasite extraction and explores minimum sample size needed to yield representative results.

Jacobucci, Susan [130] see *Trigg, Heather B.*

Jaidar, Yareli (INAH-CNCPC) and Patricia Meehan (INAH-CNCPC)

[74] *Los elementos decorativos y recubrimientos arquitectónicos de estuco en el sitio arqueológico de Ek'Balam, Yucatán. Estudio de los aditivos orgánicos con fines de conservación.*

El sitio arqueológico de Ek' Balam es un ejemplo representativo de los diversos elementos decorativos y recubrimientos arquitectónicos elaborados en estuco en el área maya. A partir del manejo de la cal y sus agregados (cargas y aditivos), se emplearon distintas técnicas constructivas para su manufactura mismos que se han retomado para su conservación y restauración. En este documento se exponen los resultados preliminares sobre la caracterización de cuatro extractos vegetales: el chacá, el chucum, el pixoy y el jolol usados como aditivos para la cal. Los resultados obtenidos abren nuevas posibilidades para evaluar su uso y su efectividad.

Jakes, Kathryn [24] see *Tiedemann, Erica J.*

Jakobsson, Mattias [223] see *Schroeder, Kari B.*

James, Steven

[162] *Dynamics of Warfare in 13th Century Southern Sinagua Communities in the Middle Verde Valley: Recent Archaeological Evidence From Honanki Pueblo Near Sedona, Arizona*

During the 13th century, Honanki was one of the largest prehistoric Southern Sinagua cliff-

pueblos occupied in the middle Verde River Valley, with an estimated 70 to 100 rooms, and served as the nexus for interaction with smaller pueblos and farmsteads in the nearby community. Most of these sites including Honanki occupied defensive positions at the base of the Red Rock cliffs or higher up in overhangs that served to conceal their locations from neighboring communities. Data from recent archaeological investigations at Honanki conducted by the California State University at Fullerton and the Coconino National Forest during the past four years are presented that are suggestive of 13th century conflicts in the area.

Jamieson, Ross (Department of Archaeology)

[200] *Livestock Consumption in the Colonial Andean City: Comparing Two Household Assemblages from Highland Ecuador*

The historical archaeology of urban households in the Ecuadorian highlands reveals a society influenced by economic and ideological changes related to new economic systems, as well as new and complex constructions of identity in the colonial city. Faunal assemblages from two urban houses, one in Cuenca and one in Riobamba, demonstrate that Eurasian ungulates dominated the consumption of meat in 17th and 18th century urban houses in the Ecuadorian Andes. Contrasts between the two assemblages, however, can be explained by regional differences in the colonial economy, and by neighborhood differences within the colonial Andean city.

[27] *Discussant*

Janetski, Joel (Brigham Young University), Bradley Newbold (Department of Anthropology, Brigham Young University) and David Yoder (Department of Anthropology, University of Nevada, Las Vegas)

[46] *Early Human History on the Northern Colorado Plateau: the View from North Creek Shelter*

Four seasons of research at North Creek Shelter in Escalante Valley found evidence for redundant use between 8000 and 9500 rcybp, the earliest human occupation on the Northern Colorado Plateau. Excavators exposed several heavily used, superimposed use surfaces dating between 8000 and 9000 rcybp providing a rare glimpse into early Archaic lifeways. Roasting and storage pits, hearths, grinding implements, and other artifacts occur on these surfaces. A Pinto horizon dating to the above interval with abundant deer bone and projectile points suggest heavy reliance on hunting. Preliminary results of botanical analysis suggest a cooler, wetter period prior to 8000 rcybp.

Jansen, Susan (URS Corp) [258] Co-Organizer

Jansen, Susan [258] see Williams, Joel C.

Jansen, William [151] *Discussant*

Janssen, Marco (Arizona State University)

[137] *Exchange networks and migration in the ancient American Southwest*

The ancient American Southwest was occupied at a low density of settlements who experienced a large variability of rainfall and resource availability. Based on ceramic remains, it is believed settlements interacted with each other at large distances in order to cope with the spatial and temporal variability. This paper describes an agent-based model to explore the ways settlements may have developed exchange networks to buffer temporal and spatial variability in resources and motivate migration patterns. We show that gift giving, reciprocal games, between settlements can explain the maintenance of exchange networks at larger scales.

Janusek, John (Vanderbilt University)

[178] *Ceremonialism, spatiality, and the contingent production of status in the Lake Titicaca Basin Late Formative*

Formative time spans throughout the highland Andes were characterized by emergent social complexity. In many Andean regions, the material dimensions of these societies strongly challenge commonly held expectations for complexity: including, one center/one

polity models, the focal role of markets, and expressions of status or class. I take a regional perspective, focusing on the early centers of Khonkho and Tiwanaku, to discuss early social differentiation in the southern basin. I propose that recurring ceremonial practice and the shifting spatiality of these centers promoted the production of far-ranging identities and gave rise to early high-status groups.

[244] *Discussant*

Janusek, John [88] see Domanska, Catherine A.

Janz, Lisa (University of Arizona)

[101] *Dune Dwellers of the Gobi: Specialized Use of Holocene Playas in the Mongolian Desert*

The term “specialization” is commonly used to describe the adoption of an adaptive mechanism that allows hunter-gatherers to heavily exploit one type of plant or animal. During the Holocene, post-glacial foragers in the Gobi Desert of Mongolia began seasonally exploiting resources along playa margins using a new range of technologies, like pottery and grinding stones. This shift in exploitation strategies has been taken as evidence of incipient cultivation, but the distribution of such technologies – small numbers of pottery sherds and grinding stones amidst large flaked stone assemblages – suggests instead, the specialized exploitation of various seasonal playa resources.

[101] *Chair*

Jaubert, Jacques [154] see McPherron, Shannon P.

Jaynes, Jessica [11] see Harper, Veronica A

Jeffrey, Stuart [183] see Richards, Julian D.

Jelinek, Lauren (University of Arizona)

[300] *A Model for Exploring a Possible Hohokam-O'odham Continuum*

Scholars have long questioned the relationship between the Hohokam and the O'odham of southern Arizona. Ethnographic observations and oral history support the argument that the O'odham are the direct descendants of the Hohokam; however, there is a dearth of archaeological evidence linking these groups. An examination of the movement and interaction of populations in Arizona throughout prehistory suggests that the all-or-nothing attitude regarding the relationship between the Hohokam and O'odham is flawed. This new model demonstrates that the O'odham are more likely an amalgamation of various southwestern peoples displaced during the massive population migrations of the fourteenth century.

Jenkins, Dennis [256] see Gilbert, Marcus Thomas P.

Jenks, Kelly (University of Arizona, Tucson)

[114] *Witchcraft and Medicine in Colonial New Mexico*

Witchcraft played an interesting and potentially subversive role in colonial New Mexico. In a society where men controlled the economic, religious, and secular spheres, the principle producers and consumers of potions and remedies were women. Furthermore, while Spaniards outranked Castas and Pueblos within colonial society, in the context of witchcraft and healing, Castas and Pueblos were the authorities and they administered to Hispanic clients. Inquisition documents from the seventeenth and eighteenth centuries provide us with information on the people, materials, and behaviors involved in these transactions. A better understanding of these practices can add to our interpretation of colonial sites.

Jennings, Justin (Royal Ontario Museum)

[147] *Inchoate Empire? The Role of Wari in the Cotahuasi Valley of Southern Peru*

This paper draws from eight years of surveys and excavations in order to discuss the relationship between the Wari state (600-1000 AD) and the people of the Cotahuasi Valley of southern Peru. Although Wari influence in the valley was both pervasive and revolutionary, there is little evidence for the flow of goods and people between the valley

and the Wari heartland. This seeming contradiction can be understood through a more nuanced understanding of the nature of Wari influence and how this influence was transformed through the interactions of aspiring local elites.

Jennings, Thomas (Texas A&M University)

[42] *Clovis Lithic Technology: How Diagnostic is the Debitage?*

Besides fluted points, some lithic analysts have recognized specific Clovis technologies that produced potentially highly diagnostic debitage forms, including overshot biface flakes, curved macroblades, and "winged" core rejuvenation flakes. Building on recent excavations and analyses of the Gault site and assemblage, this paper compares the morphology and occurrence of these "debitage-diagnostics" in Clovis and later assemblages from the nearby Buttermilk Creek site to measure how diagnostic they really are.

Jensen, Anne

[17] *New Light on Thule Origins: The View from Nuvuk, Point Barrow, Alaska*

One of the great questions in Arctic archaeology concerns Thule origins. Recent advances in radiometric dating have led to a reevaluation of the commonly-accepted chronologies of NeoEskimo cultures. One school of thought has Thule appearing in the Eastern Arctic as a direct descendent of Punuk, moving east without ever occupying North Alaska. However, Walakpa shows strong evidence for the in situ development of Thule in part from a Birnirk base. Radiochronometric and artifactual evidence from Nuvuk suggest that the connection of Punuk to Thule was probably mediated at multiple sites in North Alaska by Birnirk influence.

Jensen, Anne [223] see O'Rourke, Dennis H.

Jensen, Eric [165] see Casana, Jesse

Jensen, Ole Lass (Hoersholm Egns Museum)

[186] *The Late Mesolithic Society of Northeastern Zealand, Denmark: New Perspectives on Site Organization, Dwellings and Burial Practice*

The northeastern coast of Zealand is known for its many well preserved late Mesolithic settlements and graves dating from 5600 to 4800 B.C. Recent excavations have thrown new light on our knowledge of the dwellings, the burial practices and site organization within this region. This paper focuses on the site of Nivaå 10 where 4 small dwellings and 12 graves have been excavated. The find gives a hitherto unknown picture of how dwellings were used — both in the sense of daily life and ritual behavior. Furthermore, the site demonstrates that dwellings and graves were closely linked.

Jeon, Ok-Ryun [116] see Choy, Kyungcheol

Jerardino, Antonieta (University of Cape Town) and Curtis W Marean (Arizona State University)

[149] *Shellfish gathering and marine palaeoecology during the Middle and Late Pleistocene: perspectives from Cave 13b, Pinnacle Point, South Africa*

Among several MSA projects presently under way in southern Africa, SACP4 based on the Mossel Bay area provides the oldest dense shell midden, and documents that people used marine resources from different shoreline contexts. Lithics and fauna abound throughout Cave 13b sequence, but mostly concentrated in burnt lenses. Dramatic changes in shellfish species composition are observed between earliest and latter occupational horizons. High resolution data on sea level change, palaeoenvironmental reconstruction derived from local speleothems, and GIS 3-D spatial distribution of shell remains provide the context within which diet, settlement patterns and shellfish transport decisions among MSA people are evaluated.

Ji, Xueping [75] see Jin, Jennie

Jimenez, Jose (Direccion de Antropologia Fisica, INAH), Gloria Martínez Sosa (DAF, INAH) and Rocío Hernández Flores (DAF, INAH)

[32] *Los hombres más antiguos de México*

Se presentan los resultados obtenidos del análisis morfométrico y la antigüedad de siete especímenes precerámicos, localizados en distintos puntos de México. Con esta información, se esclarecen algunos datos en torno a la migración y la presencia del hombre en el continente americano, lo cual permite plantear una serie de aseveraciones en relación con las hipótesis formuladas anteriormente, en cuenta a la presencia del hombre en la Cuenca de México. Hoy en día, gracias a los fechamientos de estos siete esqueletos, se ha podido establecer una antigüedad que de los 12 700 a los 3 500 años a. P. Estos fechamientos, permiten enlazar la información para reconstruir los antecedentes sobre el origen, la migración y a antigüedad de los primeros grupos humanos que llegaron a América.

Jin, Jennie (Dept. of Anthropology), Nina Jablonski (Penn State University) and Xueping Ji (Yunnan Institute of Cultural Relics and Archaeology)

[75] *Taphonomic Analysis of the early Holocene faunal materials from the Tangzigou site in Yunnan, China*

The site of Tangzigou, located in Yunnan province of China, appears to straddle the crucial period from the latest Pleistocene through the early Holocene. Its sediments have yielded numerous vertebrate fossils and stone tools from 9,000 BP. Unlike other parts of China, there is no evidence for agriculture and animal domestication at this time period in Yunnan province. Tangzigou faunal materials, however, show clear evidence of human exploitation along with the discovery of Late Paleolithic stone tools and a few ground axes. These suggest that Tangzigou may represent a transition to the Neolithic. Detailed taphonomic analyses will be presented.

[75] *Co-Organizer*

Jin, Jennie [75] see Norton, Christopher

Jing, Zhichun (The University of British Columbia) [226] *Co-Organizer*

Jing, Zhichun [226] see Tang, Jigen

Jochim, Michael (Univ of Cal - Santa Barbara)

[143] *Coping with the Younger Dryas in the Heart of Europe*

In contrast to the northern regions of Europe, central Europe experienced only slight environmental effects of the Younger Dryas climatic downturn. Nevertheless, subtle changes in habitat did occur, and appear to have encouraged equally subtle changes in hunter-gatherer subsistence and settlement. The archaeological record of southern Germany and northern Switzerland will be examined in light of the environmental changes of this period.

Johansen, Peter (University of Chicago) and Andrew M. Bauer (University of Chicago)

[229] *Reconfiguring 'Politics' in the Reconstruction of Past Political Production*

The study of politics through large-scale institutional settings has been a predominant theme in archaeological research; however, investigations of political practices in many other social frames and contexts are generally lacking. Especially neglected have been the political practices of everyday life, despite the quotidian nature of much of the archaeological record. Moving beyond the notion of politics as an essence of some large institutional structure (e.g., the state) enables the use of a very broad range of archaeological data to address an equally broad diversity of past political actions and practices that oriented social relations at a variety of scales.

[229] *Chair*

Johansen, Peter G. [229] see Bauer, Andrew M.

Johansen, Trine [17] see Darwent, Christyann M.

John, Jennifer (University College London)

[112] *Symbolism on Terminal Classic, Postclassic and Early Historic Ceramics from Lamanai, a Maya site in Northern Belize, Central America*

PhD findings of the first detailed iconographical study of Lamanai ceramics are presented. Iconographical styles, symbolic content and their evolution were studied (ca. A.D. 800 - 1700). Readings for Lamanai motifs are proposed, some of which are new and applicable to motifs found throughout the Maya Lowlands. Findings show that Lamanai's survival during the time of turbulence following the Classic Period involved an ideological shift, particularly in relation to the elite, that was expressed in the site's cultural material. Furthermore, an initial iconographically-based establishing of Lamanai's cultural sphere within the Postclassic Maya Lowlands is presented.

Johnson, Amber (Truman State University)

[57] *Distinguishing environmental and density-dependent aspects of adaptation*

Globally the Middle Holocene is a period in which significant climate change and rapidly increasing population density are both associated with often-dramatic changes in human subsistence and social organization. Methodologically it is interesting to ask: how can archaeologists learn to distinguish environmentally- and demographically-conditioned aspects of change in such strategies? Limiting the scope of this session to the Americas partially controls variation in the timing of initial occupation. This provides a laboratory for testing expectations of analytical models which allow environmental and demographic variables to change independently. This exploration is founded on Binford's (2001) environmental and hunter-gatherer frames of reference.

Johnson, Eileen [32] see Arroyo-Cabral, Joaquin

Johnson, Ilana (University of California, Los Angeles)

[232] *Moche Urban Households: A domestic comparison of Pampa Grande, Galindo, and the Pyramids of Moche*

The Late Moche Period (AD 600-900) was marked by political and social changes that affected the daily lives of individuals living on the North Coast. Most notably was the development of highly urbanized centers in several valleys of the Moche region. This paper will compare household construction, organization, and production activities from three Moche cities. New research from the Southern Pediment of Pampa Grande will be analyzed along with previous data from Galindo and the Pyramids of Moche in an attempt to reconstruct the Moche worldview of house, home, and daily life.

Johnson, Jay (University of Mississippi)

[53] *Remembering*

The 1980s were an exciting time in which to be studying stone tools and "The Organization of Core Technology" presents a snap shot of some of the ideas that were being developed during those times. In this paper I will consider some of the major themes that are included in the book and reflect upon the ways in which they anticipate and fail to anticipate developments in lithic analysis over the following two decades.

Johnson, Jessica (National Museum of the American Indian) [65] Chair

Johnson, Jessica [65] see Madden, Odile M

Johnson, John (Santa Barbara Museum of Natural History), G. James West (University of California, Davis), Thomas Rockwell (San Diego State University) and Thomas W. Stafford, Jr. (Stafford Research Laboratories)

[210] *Environmental Change at Arlington Springs Before and After the Younger Dryas*
To corroborate the age of 13,000 CALYBP obtained on collagen from human bone from Arlington Springs, Santa Rosa Island, several seasons of fieldwork have been conducted at the site. More than 20 AMS radiocarbon dates from charcoal, humic acids, and marine shells in the various geological and cultural strata at the Arlington Springs locality have been obtained from samples collected during our fieldwork. A very dark soil layer dates

from the inception of the Younger Dryas at 12,900 CALYBP. The Arlington Canyon stratigraphy records major environmental and sedimentological changes that began after the inception of the Younger Dryas Period.

Johnson, Michael (Fairfax Co Archaeology)

[210] *"One is an Accident - Two is a Coincidence - Three is a Pattern"*

Based on soil/sediment analysis at Cactus Hill (44SX202) and the nearby Barr site (44SX319), the author developed a model used to successfully predict and locate two more deeply buried Paleoamerican sites in the Nottoway River floodplain of Southeastern Virginia. The model rests on the hypothesis that dramatic climate change following the onset of the Younger-Dryas resulted in a severely altered sedimentation pattern in the Nottoway. Through preliminary soil/sediment analysis, surviving pre-Younger-Dryas buried landforms were located and successfully tested elsewhere. Predicted Paleoamerican components in the Blueberry Hill (44SX327) and Rubis-Pearsall (44SX360) sites were confirmed.

Johnson, Phillip

[156] *Elemental Analysis of fine-grained basalt sources and artifacts from the Samoan Island of Tutuila*

The Samoan island of Tutuila has been well documented as a significant source of fine-grained basalt in the West Polynesia-Fiji interaction sphere. Over the past twenty years, geochemical characterization of Tutuilan basalt has been an integral component in the archaeological investigation of Polynesian production, distribution and consumption. To that end, the Elemental Analysis Laboratory (EAL) at the Texas A&M Center for Chemical Characterization and Analysis has applied both INAA and XRF in provenance studies of Tutuilan basalt sources and artifacts. This paper will present recent archaeometric applications of elemental analysis on Tutuilan basalt at the Texas A&M EAL.

Johnson, Phillip R. [156] see Winterhoff, Ernest H.

Johnstone, Dave (Humboldt State University)

[144] *Changes in internal site settlement within the Cochuah region of the Northern Lowlands*

The internal organization of sites within the Cochuah region varies across space and through time. While larger, more complex sites tend to exhibit a greater degree of nucleation and to follow formal site planning and orientations, these characteristics are absent at smaller sites. While these principals governed the layouts of the larger site from the Late Formative through the Late Classic, the Terminal Classic saw a break with tradition resulting in a decentralization of construction that departed from previous structure orientations.

Jolie, Edward (University of New Mexico) and Adam Watson (University of Virginia)

[140] *Preliminary Results from the Reinvestigation of Pueblo Bonito's East Mound*

The origin, internal structure and function of the two earthen mounds immediately south of Pueblo Bonito in Chaco Canyon, New Mexico, have been the focus of considerable attention for over a century. Recent re-excavation of Neil Judd's trench through the East Mound provides new data about the mound's internal geology and cultural features that allow us to revise earlier interpretations and pose new questions. In this presentation we will discuss preliminary results from the Chaco Stratigraphy Project's re-excavation of the East Mound in light of previous research.

Jolie, Edward [225] see Schaafsma, Curtis

Jones, Alexandra (University of California, Berkeley)

[293] *Can You DIG It? Archaeology and Children*

The future of archaeology lies in the generations to come. Educating children about archaeology and its impact on the development of history gives our children a fuller understanding of how their histories are created. Archaeology In The Community is an organization developed to educate youth about the fundamentals of archaeological

methods with the goal of promoting the development of archaeologically literate citizens. The organization conducts fun and educational seminars, as well as hands-on projects on archaeological ethics, procedures, methods, and research. This paper will address the implications of programs such as these in the development of future citizens.

Jones, Emily (Diné College)

[303] *Patch choice and environmental fluctuation: dietary change in the Dordogne at the Pleistocene-Holocene transition*

It has long been observed that a shift in diet took place in southwestern France at the end of the Pleistocene; diets that had previously been dependent on large ungulates were replaced by those heavily dependent on smaller species, and in particular on the wild European rabbit (*Oryctolagus cuniculus*). This shift loosely corresponds to known changes in climate and landscape. The research presented here uses data from two sites dating to the late Pleistocene and early Holocene to investigate the correspondence between changing diet and environmental fluctuation in Southwestern France at the Pleistocene-Holocene transition.

Jones, Eric (The Pennsylvania State University)

[127] *Settlement Ecology of the Haudenosaunee, AD 1500-1700*

Settlement ecology encompasses research into the factors, both environmental and sociopolitical, that influence the settlement patterns of a culture. The Haudenosaunee (Iroquois) had a semi-sedentary settlement pattern and a horticultural subsistence system in a temperate climate. In addition, evidence of intergroup violence in the Northeast/Great Lakes region stretches far back in history. Consequently, Haudenosaunee settlement patterns from AD 1500 to AD 1700 reflect the often-changing constellation of environmental and sociopolitical factors that influenced the settlement decisions of communities just prior to contact and during contact.

Jones, Geoffrey L. [3] see Perry, Megan A.

Jones, George T. [214] see Fontes, Lisa M.; [214] see Fischetti, Jordan P.

Jones, John (Washington State University), Nicholas Dunning (University of Cincinnati) and Peter E. Siegel (Montclair State University)

[319] *Pre-Columbian Human/Environmental Interactions on Antigua, West Indies: Palynological Implications from a Sediment Core*

The analysis of pollen from a continuous sediment core collected in Antigua has revealed a complex history of human activities over the past several thousand years. Samples from near the base of the 4.7 meter core document Archaic period activities and possibly the period of earliest human colonization of the island. A sequence of volcanic ash lenses, although undated at present, appear to coincide with Saladoid occupations, and fluctuations in particulate carbon identify past human activities in the area. Agricultural efforts, regional site abandonment and colonial historical activities are also documented in the first core from this little-studied island.

Jones, John G. [319] see Casile, Claudette A.; [8] see Bon-Harper, Sara E.; [158] see Akpinar, Ezgi; [84] see Hallock, Ashley L.

Jones, Joshua (Western Cultural Resource Management), Sarah Morgan (Western Cultural Resource Management, Inc.) and Timothy Kearns (Western Cultural Resource Management, Inc.)

[46] *The Mogollon Occupation at Red Mountain in Luna County, New Mexico*

Recent excavations at four sites along Jones Spring Draw at the base of Red Mountain in Luna County, New Mexico provide insight into the Mogollon occupation of the lowland desert of southwest New Mexico. The suite of sites was occupied during the Early and Late Pithouse periods and the attractiveness of the study area to the prehistoric populations appears to have been linked to discharge patterns of the Mimbres River. Data pertinent to cultural affiliation, temporal sequence, settlement, subsistence, and organization are presented.

Jones, Kevin (University of Arizona), Fred Andrus (University of Alabama), Greg Hodgins (NSF-Arizona AMS Facility) and Miguel Etayo-Cadavid (University of Alabama)

[231] *Radiocarbon chronology of Site QJ-280, Quebrada Jaguay, Peru*

Quebrada Jaguay in southern coastal Peru is one of the oldest fishing sites known in the Americas. Radiocarbon dates on charcoal from site QJ-280 range from terminal Pleistocene ($11,343 \pm 300$ 14C yBP) to early Holocene (7500 ± 130 14C yBP). We summarize the radiocarbon chronology of Quebrada Jaguay, report new pairs of radiocarbon dates on charcoal and mollusk shells that we consider to have been deposited contemporaneously in the early Holocene, and discuss implications of these paired dates for the marine reservoir correction and thus radiocarbon dating of marine samples in Peru.

Jones, Kimberly

[310] *The Head Bearer Ashlar: Context and Comparisons for the Circular Plaza, Chavín de Huántar, Peru*

Five stone ashlars remain within the upper row in the northwest quadrant of the Circular Plaza at Chavín de Huántar, Peru. The three most identifiable sculptures represent profile anthropomorphic figures carrying ritual objects. The sculpture nearest the western staircase, however, depicts a frontal image that bears an object in its right hand. Based on comparative highland forms and a contextual analysis of the plaza's visual program, I posit that the object represents a bodiless head with looped hair. This identification prompts discussion of the relationship of Chavín de Huántar to comparative imagery through the north coast and highlands.

[310] *Co-Organizer*

Jones, Robert and William Reitze (University of Arizona)

[10] *Labor on the Line: Experimental Archaeology and the Kutoyis Site, MT*

The Kutoyis driveline system, Blackfeet Reservation, MT, stretches for several miles before ending abruptly in a cliff face. The system employs thousands of individually built cairns and potentially as many standing "scarecrow" structures. An experimental segment of driveline was constructed in order to quantify the amount of labor required to construct the bison drive system at the Kutoyis Site. The quantification of labor for various components of a driveline system allows a direct comparison between large-scale systems with diverse components. Labor calculations are compared to other Northern Plains bison drive sites.

Jones, Robert [9] see May, Elizabeth M.

Jones, Stefan [234] see Mosher, Matthew S.

Jones, Terry, Brendan J. Culleton (University of Oregon), Judy Porcasi (Cotsen Institute of Archaeology, University of California, Los Angeles) and Shawn Larson (Seattle Aquarium)

[36] *The Prehistory of Sea Otters along the Central California Coast*

Sea otters are the primary keystone predator in kelp forests along the coast of California. A 10,000-year record of kelp forest exploitation from Diablo Canyon on the central coast shows that sea otter hunting began by at least cal 5000 B.C. and increased incrementally through the Holocene. DNA and isotope findings from a robust sample of otter bones suggest that while the species was taken in large numbers in a seemingly non-conservative fashion, populations remained viable throughout the span of prehistoric exploitation and habitats remained stable.

[152] *Discussant*

Jordá Pardo, Jesús [69] see Aura, J. Emili

Jordan, James (Antioch University New England), Bruce Finney (University of Alaska Fairbanks), Herbert Maschner (Idaho State University) and Matthew Betts (Canadian Museum of Civilization)

[194] *Long-Term Human-Environment Interaction in the North Pacific: Multiple Proxies from Sanak Island and the Western Alaska Peninsula*

Investigations of environmental dynamics and archaeology in the western Gulf of Alaska - eastern Aleutian archipelago reveal patterns of long-term resilience and adaptation of human populations to pronounced climatic, geologic, and ecologic variability. Middens, terrestrial and marine sediment cores, and coastal geomorphology record fluctuations in regional climate (e.g. Neoglaciation, MWP, LIA), short and long-term geological disturbance, and changes in marine productivity (regime shifts) that co-occur with shifting human adaptive strategies manifest in house form, village organization, and artifact and faunal assemblages. The integration of these proxy data sets suggests strong, multi-scale reciprocal links between humans and the North Pacific ecosystem.

Jordan, James [289] see *Maschner, Herbert*

Jordan, Jillian (University of Mississippi)

[97] *Archaeological Investigations at Baateel' Ek, Caves Branch River Valley, Belize*
Archaeological investigations in the Caves Branch River Valley in western Belize have primarily focused on the ritual use of caves and rockshelters leaving the landscape virtually unexplored. Survey and excavations conducted at the site of Baateel' Ek marks one of the first attempts at understanding settlement in the valley. Baateel' Ek is a medium sized, hilltop center that flourished during the Late Classic and is characterized by rapid construction with little modification to the natural landscape and limited artifactual evidence. This paper explores settlement at Baateel' Ek and its relationship with other Maya centers.

Jordan, Peter (School of Geosciences, Department of Archaeology, University of Aberdeen)

[71] *Practising Meaning in the Rock Art Traditions of Northern Eurasia*
The hunter gatherer cultures of northern Eurasia share striking similarities in cosmology, worldview and the ritualised veneration of 'natural' landscape features. Close analysis of these ethnographic accounts provides archaeologists with productive frameworks for understanding the creation of meaning in the rock art traditions of northern Europe. This approach rejects the notion that rock art is merely a static 'reflection' of prehistoric cosmology, and emphasises the 'active' roles played by key rock art sites in the wider landscape. It also demonstrates that the ritualised experiences of creating the images hold the key to understanding the art's original significance.

Jorgensen, Mia [251] see *Boudreau, Monique M.*

Joslin, Terry (UCSB)

[243] *Alternative Explanations of Prehistoric Shellfish Collecting Along the Central California Coast: Human Behavioral Ecology or Spatial Variation in Intertidal Communities?*
Determining evidence of subsistence intensification in faunal assemblages include observable shifts in shellfish procurement strategies. Indications are often evidenced in an expanded diet breadth and a reduction in size of taxa over time due to increased harvesting. Although useful heuristic measures, an analysis of shellfish collections spanning the Holocene along the northern San Luis Obispo coastline is revealing. Both the relatively balanced array of shellfish species and the size of California mussel (*Mytilus californianus*) are reflective of minor temporal variations in the productivity of intertidal communities that appear more indicative of environmental conditions constraining the growth of mature mussel beds.

Joyce, Arthur [16] see *Barber, Sarah B.*

Joyce, Rosemary (University California Berkeley) and Julia Hendon (Gettysburg College)

[16] *Persons and possessions: Archaeological approaches to thinking about things*
Ethnographically described objects can be immovable property, inalienable wealth, fungible commodities, obligatory gifts, or portable goods, something exchanged, hoarded, inherited, or killed, agents or fetishes, possessors of material properties and life histories, as much a part of the persons they connect as something apart from them. Archaeology, with its long-established methods to trace the histories of things and understand how people exploited

their material properties, is in a unique position to contribute to anthropological theories of possessions. This paper explores this potential, drawing on case studies from sites in Classic period Honduras, paying particular attention to inalienability, agency, and materiality.

[247] *Discussant* [155] *Discussant*

Joyce, Rosemary [59] see *Maldonado, Doris*; [227] see *Henderson, John S.*

Juarez, Santiago [302] see *Docster, Elise M.*

Juday, Glenn P. [17] see *Alix, Claire*

Judge, Christopher (Univ. of SC)

[254] *Foragers, Feasts, and Features: Late Woodland in the Great Pee Dee Valley of South Carolina*

This paper will discuss Late Woodland components (Hanover phase) in the Great Pee Dee River Valley in order to understand social organization and subsistence activities. Fauna and ethnobotanical data from several sites are used to create a model of feasting among broad spectrum foragers between A.D. 600 and A.D. 1,000. Large storage pits at the Johannes Kolb site are interpreted to function as storage facilities for seasonally available resources such as fish and mast. In addition, vessel size is explored as another line of evidence indicative of storage and hence feasting activities.

Kaestle, Frederika (Indiana University- Bloomington), Georgia Millward (Indiana University, Bloomington) and Jennifer Raff (Indiana University, Bloomington)

[223] *Kinship in the Archaeological Record: Ancient DNA Insights*

It has been suggested that kinship can be marked in various ways in the archaeological record, and inferences have been made about kinship systems in the past based on this evidence. We present new avenues to examine these hypotheses using ancient DNA, which provides a direct test of biological relationship between deceased individuals, and of genetic exchange between populations, including examples from our research. These include determining kinship within a single burial, testing for familial relationships within burial mounds, and looking for evidence of gene flow between prehistoric settlements, in some cases with surprising results.

Kahn, Jenny (Bishop Museum Archaeology Department), John Holson (Pacific Legacy, Inc.), Patrick Kirch (University of California Berkeley) and Peter Mills (University of Hawaii)

[156] *Tool Production at the Nu'u Quarry, Maui, Hawaiian Islands: XRF Analyses and Manufacturing Stage Sequences*

Nu'u, a newly discovered quarry in Kaupo, Maui (Hawaiian Islands) provides a case study of small scale in-situ adze production, presumably for local use. This study presents new XRF data refining the geochemical characterization of the Nu'u quarry versus Hakeakala, the other currently known quarry on Maui Island. Detailed reduction stage analysis of preforms and debitage documents that a variety of adze sizes and cross-sections were manufactured on site. These data have important implications for future analyses of small scale adze quarries and domestic sites within the Hawaiian Island chiefdoms.

Kakoulli, Ioanna (Cotsen Institute of Archaeology & Materials Science Dept. At UCLA), Christian Fischer (Cotsen Institute of Archaeology/UCLA), Kun Liu (Materials Science and Engineering Department/UCLA), Marianne Cilluffo (Neuroscience and Genetics Research Center-CHS/UCLA) and Sergey V. Prikhodko (Materials Science and Engineering Department/UCLA)

[157] *Taphonomy, Diagenesis and Preservation of Bioarchaeological Materials in the Tarapaca Valley, Chile*

Archaeological organic materials undergo chemical, physical and biological changes (diagenesis) that can modify their morphology, chemistry and structure. These processes depend on the burial environment and have implications on the degree of decomposition of archaeological materials. This research focuses on the study of taphonomic processes

through scientific analyses of soil and well-preserved hair and skin from spontaneously mummified human remains at the Tarapacá Valley that can be used as bio-markers for intra- and inter-site level investigations.

[157] *Co-Organizer*

Kalosky, Ethan [302] see *Docster, Elise M.*

Kaltenrieder, Simon [18] see *Hammond, Joanne E.*

Kamenov, George [99] see *Valentine, Benjamin*

Kamp, Kathryn (Grinnell College), Anabel Ford (University of California Santa Barbara) and John Whittaker (Grinnell College)

[267] *Axes and Pyramids: Industrial Centers and Industry within Centers*

The example of a lithic workshop from the ceremonial center of El Pilar in Belize, and increasing evidence elsewhere, shows that unsurprisingly, Maya centers as well as smaller sites engaged in specialist manufacture of utilitarian goods. Further, in both large and small site contexts non-specialist home production of lithics still occurred, particularly for some types of tools. Whether we interpret lithic enterprises as under centralized control or in a less elite-dominated model currently depends more on our theoretical biases than on hard evidence.

Kamp, Kathryn [154] see *Whittaker, John C.*

Kamphaus, Benjamin

[81] *A Proposed Formal Definition for an Archaeological Site Using Basic Formal Ontology*

This paper applies basic concepts from Basic Formal Ontology to the problem of identifying and defining archaeological sites. Site identification has been the subject of controversy, and somewhat radical solutions have been sought, ie. the advocacy of removing "site" from archaeology by Dunnell. By relying on a strict formal ontology this ambiguity can be eliminated, allowing for standardized definitions which will facilitate data interoperability between different archaeological projects. This application of BFO demonstrates that we often use one word, "site," to identify two different contexts, one present, and one past, and that these meanings must be separated.

Kane, Susan [54] see *Gaffney, Chris*

Kaner, Simon (Sainsbury Institute)

[226] *Emulation or subversion: revisiting possible Chinese influences in the prehistoric Japanese archipelago*

Models of sedentarisation among gatherer-hunter societies suggest that as residential shift practices become focused on a smaller number of specific locations, so there is a propensity for longer distance journeys to be undertaken. This paper will address how disruptions in long-established residential shift patterning in the prehistoric Jomon period of the Japanese archipelago are materialised, associated with long distance travel and exchange networks. Exploring the animal imagery that appears in central Japan c.2500 BC, and the nature of possible 'influences' from the East Asian mainland, the paper examines these representations as local strategies designed to subvert emerging elite identities.

Kang, Bong (Gyeongju University)

[226] *An Examination of the Interregional Interaction between Ancient Korea and Japan*

Intraregional and interregional exchange has received considerable scholarly attention as potential causative factors in the emergence of state-level societies. In the case of the southern Korea, tantalizing evidence of long-distance trade is manifested in both the Chinese and Korean historical texts and archaeological records. Geographic proximity made it possible for Protohistoric Koreans and Japanese to have had frequent contacts. By using literary sources and imported goods discovered in various locations of the southern part of the Korean peninsula, this paper will examine the role of long-distance exchange in the development of socio-political complexity of Silla Kingdom in ancient Korea.

Kanno, Tomonori (Graduate School/Faculty of Arts and Letters)

[188] *Characteristics of Jomon wetland settlements in Northeastern Honshu*

This paper examines characteristics of two Jomon wetland settlements in Northeastern Honshu, where the Jomon culture flourished: Ondashi (latter half of Early Jomon; ca. 5,950-5,750 BP.) and Korekawa (Final Jomon; ca. 3,200-2,350 BP). Excavation of the Ondashi site revealed the presence of a surface dwelling, lacquered pottery, wood spatulas, paddles, and food debris, including mushrooms. Korekawa is well-known for an abundance of lacquered artifacts, such as baskets, wooden bowls, combs and various ornaments. This kind of information was never obtained from dryland settlements of the same region, from which the majority of excavated artifacts are potsherds and stone tools.

Kansa, Eric (UC Berkeley, School of Information) and Sarah Whitcher Kansa (Alexandria Archive Institute)

[183] *Beyond Open Access: Open Data, Web Services, and Semantics*

Simple web services delivering machine-readable data can help make archaeological information truly open and reusable for research, instruction, and creativity. Open Context (www.opencontext.org), is an open source publishing system that facilitates sharing, collaboration, and integration of field research and museum collections. It includes Web 2.0 features: folksonomies, dynamic weblog linking, maps, and browsable navigation through multiple collections. RESTful web services will soon enable new interface and presentation options. However, “user-generated content” (a web 2.0 hallmark) requires difficult schema-mapping steps to make data interoperability possible in Open Context. Can community-based solutions meet the complex semantic challenges of archaeological data?

[78] *Discussant* [271] *Discussant*

Kansa, Sarah (The Alexandria Archive Institute) [183] Chair [247] Discussant

Kansa, Sarah Whitcher [183] see Kansa, Eric C

Kapid, Rubyanto [94] see ARIF, Johan

Kasper, Kimberly (University of Massachusetts-Amherst, Department of Anthropology) and Elizabeth Chilton (University of Massachusetts-Amherst)

[289] *The Ecological Legacy of Mobile Farmers in Pre-Contact New England: A Case Study From the Middle Connecticut River Valley*

Archaeologists and ecologists are increasingly pooling their expertise to reconstruct the ecological legacy of Native Americans, particularly with respect to mobility and subsistence strategies. The multidisciplinary research presented here adds to this dialogue and illustrates how the use of domesticated and wild plants in New England co-evolved with changes in the landscape. Archaeobotanical remains from two pre-Contact sites, Pine Hill and Eaglebrook, will be discussed. This research will aid in decoding social and environmental processes associated with Native Americans subsistence and how those histories have affected the development and acceptance of the ecological legacy of mobile farmers within this region.

Katzenberg, Anne [291] see Saunders, Shelley R.

Kaufmann, Cristian [117] see Gutierrez, Maria A.

Kaufmann, George [260] see Welch, John Robert

Kay, Marvin (University of Arkansas)

[315] *Sickle sheen—a use-wear evaluation*

Plant microscopic wear traces on stone tools are variable, complex and, despite many attempts, still understudied. Using experimental and archaeological examples from Israel and Jordan, this study addresses sickle sheen on prismatic blades. Sickle sheen develops in stages by abrasion and additions. An early stage of bright organic bands and tool edge rounding is identifiable microscopically. The macroscopic iridescent sickle sheen is a later

stage, or stages. Its characteristics include tool edge rounding, conspicuous use-related edge damage, and heavily striated intergrading brightly opaque and transparent phases of additive soluble inorganic residues. This residue, likely a silica gel, hardens in use and bonds to the tool surface. Tool edge resharpening is more common in later stages. Recycling of sickle blades as other tools occurs too.

Kearns, Tim [212] see Wheeler, Charles W.

Kearns, Timothy (Western Cultural Resource Management, Inc.)

[46] *The Archaic Occupation at Four Sites in Southwest New Mexico*

The identification of the Archaic period occupation of southwest New Mexico is largely based on the Cochise Culture to the west and the Archaic Chihuahua Tradition to the east. Four sites were recently excavated by Western Cultural Resource Management, Inc. within the area where these two cultural areas overlap in Doña Ana and Luna Counties. Data from the four sites is summarized and combined with data from other projects in the area to address the cultural affiliation, temporal sequence, settlement, and subsistence aspects of the Archaic occupation in this region of the American Southwest.

Kearns, Timothy [46] see Jones, Joshua G.

Keates, Susan (University of Arizona) and Yaroslav V. Kuzmin (Pacific Institute of Geography, Vladivostok, Russia)

[269] *Upper Paleolithic emergence in Northern, Central and East Asia*

Different models of the appearance of the Upper Paleolithic (population replacement, independent development from local Middle Paleolithic complexes) are examined in relation to tool typology, chronology, and environment. In Siberia, Central Asia, and Mongolia, the Upper Paleolithic emerged from the local Middle Paleolithic from ca. 43,000 BP onwards, and the earliest Upper Paleolithic assemblages include Levallois-like artifacts. The very early examples of art in southern Siberia testify in favor of the Upper Paleolithic nature of these sites dated to ca. 35,000-40,000 BP. In China, continuity of Lower Paleolithic technology with late Upper Paleolithic elements is characteristic after ca. 30,000 BP.

Kedrowski, Brant [275] see Crass, Barbara

Keegan, William (Florida Museum of Natural History)

[240] *Boundary-work, Reputational Systems, and the Delineation of Population Movements in the Prehistoric Caribbean*

Boundary-work is a term introduced by sociologists of science to recognize the initial definition of a field of scientific inquiry, while reputational systems are the manner in which this inquiry is hierarchically stratified. The present paper explores the ways that these have been used to delimit and structure the investigation of population movements in the prehistoric insular Caribbean. This inquiry demonstrates that representations of prehistoric population movements are a product of historical contingencies within the discipline of Caribbean archaeology and not necessarily an accurate portrait of human migrations into and within the islands.

[63] *Discussant; [196]* see Atkinson, Lesley-Gail M.

Keeler, Dustin (University at Buffalo)

[220] *Predictive Modeling Based on Coastal Uplift Patterns*

Site locations are predicted in a previously uninvestigated area of Eastern James Bay, Quebec based on known patterns of settlement in regions where coastal uplift occurs in Northern Finland and other areas of Eastern James.

Keene, Deborah (Alabama Museum of Natural History and University of Alabama)

[243] *Exploring the Lifecycle of Boonea impressa: Drawbacks of Using this Species as a Seasonal Indicator at Coastal Sites*

Boonea impressa, a parasitic gastropod, has been used as a season of capture indicator for oysters. However, aspects of this species' lifecycle indicate that it may not be an

accurate season of capture indicator. Data from Atlantic and Gulf coast populations indicate that the average size of the population can vary both geographically and temporally. Reproduction appears to occur throughout the year rather than at specific times, providing no "breeding season" to calculate average age of population. There is a tendency of younger individuals to feed differently than older individuals, which may result in their absence from an archaeological sample.

Keene, Joshua (Texas A&M University) and Michael Waters (The Center for the Study of the First Americans)

[221] *Site Formation Processes at the Buttermilk Creek Site (41BL1239), Bell County, Texas*

The Buttermilk Creek site is located in central Texas 200 meters downstream of the Gault site. During the 2006-2007 field seasons, late Quaternary floodplain sediments at the site yielded a chronologically ordered sequence of artifacts from late prehistoric to Paleoindian (Clovis and potential Pre-Clovis). Differences in artifact patination, presence of calcium carbonate on artifacts, and an analysis of debitage size categories are used to determine the stratigraphic integrity of the lithic artifacts and isolate occupation surfaces at the site.

Keener, Leroy [188] see *Pagel, Tressa E.*

Keller, Angela (University of California, Riverside)

[302] *The Chan Shell Collection: 2000 Years of Craft, Food, Identity, and Ritual*
Shell artifacts are some of the most durable, numerous, and informative items in archaeological collections around the world. Sadly, many shell collections are arbitrarily divided into worked "artifacts" and unworked "ecofacts," overlooking the important economic and ideological overlap between the two classes. By analyzing the Chan shell collection in its entirety, we are in a better position to recognize the emerging evidence for elite control of marine shell working; the consumption and ritual disposal of freshwater mollusks; the interplay of age, gender, and status in personal adornment and access to shell; and 2000 years of ritual action involving shell items.

[166] *Discussant*

Kellett, Lucas (University of New Mexico)

[320] *High Altitude Settlement-Subsistence Dynamics of the Chanka Heartland (Andahuaylas, Peru)*

High altitude Late Intermediate Period (ca. AD 1000 – 1400) hilltop sites of the central Andes, provide a unique example in which to view linkages between settlement and the organization of subsistence. While highland LIP agriculture has been well investigated, less understood is how pastoral activities integrated with local agriculture to support these densely populated hilltop sites. The paper presents research results from the Chanka Settlement Project (2005/2006) in Andahuaylas, Peru. Survey and excavation data support the thesis that hilltop settlement and a well organized agro-pastoral economy was critical for the success of the Chanka ethnic group during this time.

Kelley, Alice (University of Maine), Daniel Belknap (University of Maine) and Kirk Maasch (University of Maine)

[231] *[Paleogeography of Quebrada Jaguay (Site QJ-280)]*

A paleogeographic analysis, including geology, geomorphology, sea level variation, and climate change, is used to address the enigma of the location of site QJ-280. While containing evidence of a strong maritime subsistence strategy, the site is located 2 km from the present day shoreline. Estimates of Terminal Pleistocene sea level places the site even farther from the coast, approximately 7-8 km, at the time of occupation. This position suggests other factors were important in site selection. The authors conclude that the location of QJ-280 represents the nexus of the environmentally-controlled resources of water, fuel, and lithic materials.

Kelley, Jane

[34] *The Pithouse Period in Chihuahua*

During the last 50 years, most of the archaeological research conducted after Di Peso's

monumental work in the Casas Grandes area has focused on problems related to the emergence of complexity and the Medio period. The antecedents of the emergence of complexity during the Viejo period are beginning to receive attention. However, Di Peso's account of the Viejo period is still a major source of information. Di Peso's views will be reviewed and evidence not available to Di Peso will be reviewed and placed in a wider context.

[185] Discussant

Kellner, Corina (University of California, San Diego) and Margaret J. Schoeninger (Department of Anthropology, University of California San Diego)

[274] *Dietary changes during the development of Nasca social complexity (AD 1-750)*
Archaeological and geological evidence indicate the Nasca of arid south coastal Peru (AD 1-750) experienced great environmental and social challenges during their history. Stable carbon and nitrogen isotope analyses of human bone collagen show significant increase in maize consumption after a drought and the construction of underground water filtration galleries (puquios). In Late Nasca, some individuals of high social status apparently had greater access to meat, and overall there was greater variation in diet than in earlier periods. Only one individual has nitrogen isotope values indicating a marine-rich diet, even though middens include these items.

Kelly, John (Washington University - Dept. Of Anthropology), James Brown (Northwestern University) and Lucretia Kelly (Washington University)

[21] *Contextualizing Copper-Working at the Moorehead Phase Mound 34 Cahokia*
The working of copper sheets can now be tied to activities that preceded the construction of Mound 34, as a result of the 2007 excavations. One of the two copper workshops described by Perino in 1956 was rediscovered at the mound's northern margin. An in situ copper-working scatter clearly rests on a surface that was stripped of midden and subsequently covered by the stratiform deposit documented to underlain the mound over the entire area so investigated. The stratigraphic context belongs to the beginning of the Moorehead phase around AD 1200.

Kelly, John [129] see Schilling, Timothy M.

Kelly, Kenneth (University of South Carolina)

[182] *Atlantic perspectives on the African Diaspora: Archaeological research in French West Africa and the French West Indies.*

In "Toward an Archaeology of the Black Diaspora" Merrick Posnansky called for archaeological research to be undertaken in the two regions he considered most important for understanding the Diaspora--West Africa and the Caribbean. West Africa is important because of the ability to understand the places from which enslaved Africans came, and the transformations the African Diaspora visited upon their homelands, and the West Indies is important as the destination of more enslaved Africans than any other single region. This paper discusses archaeological research at African sites in Benin and Guinea, and Caribbean sites in Guadeloupe and Martinique.

[182] Chair

Kelly, Lucretia [21] see Kelly, John E.

Kelly, Robert (University of Wyoming) and Mary Prasciunas (University of Wyoming)

[184] *Clovis Projectile Point Distribution: Separating Behavior from Sample Bias*
The spatial distribution and abundance of North American fluted projectile points are central to many interpretations of the colonization process. However, before accurate inferences regarding behavior can be drawn from projectile point distributional databases, it is necessary to account for biases that may potentially affect point visibility. Using a sample of states from the western and southeastern U.S., this paper demonstrates that Clovis projectile point distribution is significantly influenced by modern population density, cultivated acreage, intensity of archaeological research, and measures of environmental productivity. Interpreting Clovis projectile point distribution is therefore more complex than is frequently assumed.

[53] *Discussant* [101] *Discussant*

Kelly-Buccellati, Marilyn [168] see *Frahm, Ellery E.*

Kelsey, Benjamin

[281] *Archaeological Investigations of an Euro-American Barrier Island Settlement in Connecticut*

Kelsey Island is a small, barrier island at the mouth of the Farm River, Branford, New Haven County Connecticut. The 18th century saw Puritan settlers relocating from centrally organized townships to exploit economic advantage in isolation. This island was the site of an 18th century, isolated homestead. Following the historical sources, the university of Mississippi in conjunction with the university of Connecticut conducted geophysical prospection and archaeological excavations locating the 18th century Euro-American settlement on the island. Project was directed by Benjamin Kelsey, masters candidate at the university of Mississippi. Results include excavations of Euro-American settlement and site formation processes.

Kelterborn, Peter [24] *Discussant*

Kemp, Brian (Washington State University)

[223] *Ancient DNA: 20 Years of Research in the Americas*

2008 marks the 20th anniversary of the first publication on DNA extracted from the remains of a prehistoric Native American. Research in the ensuing two decades of this pioneering study has produced dozens of reports on the genetic composition of ancient populations from Alaska to Tierra del Fuego. Temporal changes in genetic variation have also been recorded by these studies, with data retrieved from specimens ranging in age from hundreds to over 10,000 years old. What insights about the ancient Americas have we gained through this line of inquiry? A summary of this research will be presented.

Kemp, Brian [223] see *Malhi, Ripan*; [256] see *Gonzalez-Oliver, Angelica*; [20] see *Monroe, Cara*

Kempton, Karen (Wyoming Army National Guard) and Jeffery Hokanson (engineering-environmental Management, Inc.)

[311] *The Challenges of Stone Circles at Camp Guernsey, Wyoming*

Stone circles or "tipi rings" are relatively common across the American high plains. Thought to represent the location where Plains Indians placed hide tents, they have posed challenges to archaeologists when evaluating site significance and National Register eligibility. They can also create unique management challenges. At Camp Guernsey, the premier Wyoming Army National Guard training center, over 500 stone circles have been documented. Native Americans have expressed particular interest in the protection of these features. This paper presents the archaeological and ethnographic methods used to consider the concerns of tribes while meeting the military training mission.

Kenady, Stephen (Cultural Resource Management)

[306] *Evidence of Pre-Clovis Butchering on a Bison antiquus from the Ayer Pond Site, 45SJ454, in Northwest Washington State*

An apparently butchered Bison antiquus was found recently beneath a peat deposit on Orcas Island. This discovery included a well-preserved skull dated to $11,760 \pm 70$ RCYBP, and nearly 100 postcranial skeletal specimens. Recognized modifications include over 30 green bone fractures, two sets of rodent gnaw marks, three polished edges, eight points of impact, three sets of parallel scratches, and at least two deep "V" section cut marks. More than 60 lower limb bones were whole and unmodified while the meatier elements were missing. Significantly, no canid or scavenger "U" section gnawing marks were found and artifacts in association were absent.

Kendall, Aaron

[246] *Material Culture and Viking Age Trade: Comparison of Artifacts from Icelandic Farm Sites*

By analyzing and comparing the material culture from three Viking Age farm sites in north central Iceland two competing hypotheses regarding North Atlantic trade are addressed. Based on the quantities of imported material, the temporal change in composition of the material assemblages, as well as considering the faunal analysis and fuel resource utilization for these farms, it appears that the data supports the notion that trade between this region of Iceland and continental Europe was minimal during the Viking Age.

Kendall, Bryan (University of Iowa)

[307] *The Trouble with Lithic Scatters*

Existing predictive models of prehistoric site location tend to be focused on subsistence resources and environments. Archaeological sites preserved at locations where human activities had little relation to subsistence remain the most difficult to effectively predict using these methods. Lithic scatter is an example of a site type that can represent just such a situation. The inability to predict these sites is of little consequence when the models are created for facilitating CRM activities because encountering this site type during a construction project would likely not significantly affect the cost of its completion. Missing lithic scatters does, however, create a gap in the archaeological record. It is now possible for archaeologists to restructure existing models to predict more specific site types, and recapture this tool for archaeological investigation outside of commercial purposes. Critical to this restructuring is pushing beyond how well models can predict in general and redefining what these models can predict. Different site types in Allamakee County, Iowa tend to be patterned differently in relation to the to chert outcrops. This factor can then be used to differentiate areas where specific site types are more likely to occur.

Kennedy, James [91] see *Randklev, Charles R.*

Kennedy, John (SWCA Environmental Consultants, Inc.), Chris Millington (SWCA Environmental Consultants, Inc.), Paul Burnett (SWCA Environmental Consultants, Inc.) and Scott Slessman (SWCA Environmental Consultants, Inc.)

[308] *Terminal Archaic Elk and Pronghorn Processing at the Joe Miller Site, Southern Wyoming*

The Joe Miller site in southern Wyoming offers a rare glimpse of elk processing during the terminal Archaic. This is the only such elk processing site known in the plains/Rocky Mountains region. Excavated in 1980 and 2006, the bone bearing component occurs in a charcoal stained horizon with abundant fire-altered, charcoal stained rocks and rock-filled basin heaths. At least 16 elk and four pronghorn appear to have been harvested in a spring event that included intensive marrow extraction. This paper provides an overview of the site with a focus on these faunal processing activities.

Kennedy Thornton, Erin [233] see *Moriarty, Matthew D.*

Kennett, Douglas [197] see *Culleton, Brendan J.; [243]* see *Voorhies, Barbara*

Kent, Jonathan D. [274] see *Bethard, Jonathan D.*

Kenward, Amalia

[225] *Breath from the Stone: Black Mesa's Basalt Caves and Puebloan Emergence Mythology in Central Northern New Mexico*

Two basalt formations named Black Mesa exist along the Rio Grande in central northern New Mexico. One, a well documented, small volcanic plug, occurs just north of San Ildefonso Pueblo. Though known for the petroglyphs at its base, the more northern and much larger Black Mesa has been, for the most part, neglected in early literature and modern documentation. Atop this mesa is a series of basalt terraces riddled with crevices, canyons, and caves. Tunnels and holes exist that open into the ground, emitting cold air. These caves in relation to surrounding archaeology and Puebloan emergence mythology will be discussed.

Kepcs, Susan (University of Wisconsin-Madison)

[301] *Northeast Yucatan in the Postcolonial Era: the development of underdevelopment*
The northeast corner of modern Yucatan state, an affluent production zone on the eve of the Spanish invasion, was an impoverished backwater during the 17th and 18th centuries. How did radical 19th century world systems shifts – the rising economic power of the United States and the rise of independence among Spain's New World colonies – affect this far corner of Mesoamerica? In this paper I consider the archaeological and documentary evidence for this crucial period, during which local bootleggers and international speculators plundered the region's abundant resources and set the stage for today's unfortunate economic conditions.

[301] *Co-Organizer*

Kersel, Morag (University of Cambridge) and Meredith Chesson (University of Notre Dame)

[85] *Pots? People? Landscapes of the Dead at the Dead Sea*

Three extensive Early Bronze Age (c. 3500-2000 BCE) cemeteries on the southeastern Dead Sea Plain in Jordan offer a unique opportunity to study mortuary practices at a time when the social landscape changed dramatically as people moved into fortified towns for the first time. Unfortunately these sites have suffered through decades of plundering due to demand for whole vessels from Bab edh-Dhra, Safi, and Feifa. Beyond the immense loss of data, this case study highlights the dynamic web of motivations and meanings attached to looting and the illegal antiquities networks of the region.

Kersel, Morag [195] see Brodie, Neil

Kessler, Rebecca

[168] *Rethinking Magdalenian Mobility*

The image of highly mobile Magdalenian groups traversing the landscape has long been considered conventional archaeological wisdom. However, recent studies suggest that Magdalenian groups had varying mobility strategies. A number of researchers working in the Périgord region of southwest France have hinted that Magdalenian populations in this area may have even been sedentary. That any Magdalenian group may have been sedentary challenges long-held assumptions about the lifeways of early European populations. This research, focused on Magdalenian lithic assemblages, attempts to shed light on the issue using principles of lithic raw material economy and efficiency to identify changes in population mobility.

Kestle, Caleb (University of Ill, Chicago)

[302] *Limestone Quarrying and Household Organization at Chan, Belize*

This presentation will explore the relationship between technology and social origination as it is exhibited in the practice of limestone quarrying at a small Maya farming community during the Late Classic period. To understand this relationship, this presentation will examine horizontal excavations of limestone quarry features and two associated households located north of the Chan site core. Patterns observed during the household and quarry excavations will be compared to regional ethnohistorical data on quarrying. By considering location, quarrying techniques, material preferences, and tool distributions inferences will be made about the social organization of limestone quarrying technologies.

Kestle, Caleb [302] see Meierhoff, James W.

Kiahtipes, Christopher (Department of Anthropology, Washington State University)

[193] *Fitness like a Mustard Seed: An Evolutionary Perspective on the Adoption of Grinding Technology in the Great Basin*

The theoretical framework of Behavioral Ecology has been an important means of forming and testing hypotheses about not only the archaeological record, but also human behavioral and cultural evolution. In particular, optimal foraging models provide a means of generating testable expectations about human behavioral adaptations. The comparison of expectations derived from the foraging models with archaeological/paleoenvironmental data highlights how and why human populations in the northeastern Great Basin adopted

seed grinding technologies during the Early to Middle Archaic in a way that emphasizes the often-complex relationship of climate change, resource depression/management, and sociality.

Kidder, T.R. [129] see *Schilling, Timothy M.*

Kidder, Tristram (Washington University in St. Louis)

[19] *What is a Hunter-Gatherer? Reflections from the Southeast*

Recent developments in Southeastern archaeology indicate many populations employing hunter-gatherer subsistence practices have levels of social, political, and economic organization equal to or in some cases greater than food producing groups. I explore dimensions of Southeastern "hunter-gatherer" social, political and economic complexity and argue that a priori privileging of food production as the basis for persistent complexity cannot be empirically sustained. This conclusion suggests we deemphasize neoevolutionary stage typologies and consider specific variables that affect particular societies, such as the capacity to create surpluses, to mobilize labor, and to situate change within endogenous social and cultural processes.

Kidwell, Georgette [167] see *Hollinger, R. Eric*

Kieffer, Crystal (California State University, Los Angeles & Autry National Center Southwest Museum)

[280] *New Cave Discoveries at Quen Santo, Huehuetenango, Guatemala*

In his exploration of the fissure containing Caves 2 and 3, Eduard Selar overlooked at least five additional caves, all containing cultural material. While two are rather small, the remaining caves add significantly to our understanding of the fissure. Cave 4 is the largest enclosed space within the fissure and contained a masonry tomb. Cave 4 is only the second cave to produce such features and its presence argues persuasively for elite appropriation of the fissure. Expanding the distribution of elite cave burial into the western Maya area suggests that the practice may be more common than previously appreciated.

Kilby, David [184] see *Huckell, Bruce*

Killick, David (University of Arizona)

[96] *Adoption of metallurgy in eastern and southern Africa*

At this stage it is only possible to comment on the social context of the earliest metallurgy for the Nile Valley and for southern Africa - the intervening areas have seen too little fieldwork to permit any meaningful generalizations. In the Nile Valley it is important to distinguish between adoption of metals and adoption of metallurgy; in southern Africa, however, metals and metallurgy are synchronous and coincide with the adoption of agriculture.

Killion, Thomas (Wayne State University)

[227] *Archaic to Formative Transition to Agriculture: The Gulf Coast Lowlands in Mesoamerican Context*

The transition to cereal based agriculture in Mesoamerica was a protracted process stretching back in time several millennia in most areas. In the lowlands the process appears to have involved a reliance on wild foods supplemented by cultivated plants such as maize well into the Early Formative (1500-1000 B.C.) period and the rise of complex societies such as the Olmec. This paper compares what is known about the transition in the Gulf Coast lowlands to data from other areas of highland and lowland Mesoamerica. A Mesoamerican-wide focus is argued necessary for understanding the early adoption of cultigens, their slow rise to prominence in overall subsistence, and the effects of cereal based agriculture on settlement patterns in most areas of the lowlands by Middle Formative times (1000-500 B.C.).

Kim, Bumcheol (Department of Archaeology and Art History, Chungbuk National University)

[15] *Opportunistic Leadership and Moving People: Political Economy and Population Reorganization in the Bronze Age, Central-Western Korea*

The transition from Early to Middle Bronze Age in central-western Korea witnessed drastic regional-scale population reorganization accompanied with utilization of intensive rice-farming technology and the emergence of complex social organization. The relationship among these social, economic, and political shifts is explored, focusing on how differences in rice production/distribution patterns among polities within the area, despite their geographical proximity and similar environmental conditions, developed. It is argued that regional-scale socioeconomic changes were spurred by the elites employing an opportunistic leadership strategy to finance their newly-established political institutions and that the inter-polity difference is attributable to the differing politico-economic interests of elites.

Kim, Jangsuk (Department of History, Kyung Hee University)

[15] *Selected Acceptance of Refugees by Hosts: Post-Migration Politics around the 4th Century BC in Southern Korea*

In characterizing the post-migration relationship between hosts and migrants, some studies consider it a one-to-one game. However, neither the hosts nor migrants are internally coherent participants. Each consists of members/subgroups with different interests, and constituents of each group respond to the opponents in different ways. An examination of the migration of refugees from northeast China to southern Korea around the 4th century BC shows that the elite of the host population selectively accepted the elite of the refugees as a political partner to reinforce their political power. By contrast, lower class refugees were neglected, sparsely distributed in marginal areas.

[15] *Co-Organizer*

Kim Dung, Dr. Nguyen [141] see Huffer, Damien G.

Kimura, Birgitta (University of Florida), Connie Mulligan (University of Florida) and Fiona Marshall (Washington University)

[223] *Ancient DNA and Donkey Domestication*

Modern donkeys fall into two mitochondrial DNA (mtDNA) groups, suggesting two possible domestication events, but the locations and people involved in the domestication events are undetermined. Our study focuses on archaeological samples from Uan Muhuggiag in the Sahara and recent (50 - 120 years old) specimens of Nubian and Somali wild asses from Eastern Africa. The aim of the study is to compare mtDNA data from archaeological specimens of African wild asses and donkeys, museum specimens of wild asses, and previously published sequences of modern donkeys to provide a better understanding of the location and cultural context of donkey domestication.

Kindler, Lutz (Römisch-Germanisches Zentralmuseum, Forschungsbereich Altsteinzeit)

[94] *Neanderthals and Cave bears in the Balve Cave, Germany*

European caves are rich in remains of Cave bears which died during hibernation. Even in caves which also yield Middle Palaeolithic occupations it is generally assumed that Neanderthals didn't contribute to the Cave bear thanatocoenosis and that both never met inside these caves. So Cave bears in Middle Palaeolithic faunal assemblages serve as indicators for palimpsests of alternating cave utilisations. The results of archaeozoologic and thaphonomic analysis of the Cave bear population from the Balve Cave show that Neanderthals had exclusive claims of using this cave and killed hibernating bears on a regular basis.

[94] *see Gaudzinski-Windheuser, Sabine*

Kindon, Andrew (West Valley College)

[197] *Recent Work of the Uxbenka Archaeological Project: Increasing Evidence Regarding the Emergence of Sociopolitical Complexity in Southern Belize*

Until recently, most Maya settlements in southern Belize were thought to be of Late Classic

origin. Excavations at Uxbenká have radically changed this perspective, with radiocarbon dates firmly establishing Uxbenká as the earliest known center of sociopolitical complexity in southern Belize. Continuing excavations in the site core and surrounding settlement examine possible connections between southern Belize and the central Petén during the Early Classic. This work suggests that the emergence of complexity in southern Belize, rather than simply being the product of diffusion of political structures from external areas, may have been to a significant degree a locally-based phenomenon.

King, Adam [129] see *Walker, Chester*

King, Amanda (Simon Fraser University)

[52] *Building Relationships between Diverse Communities: Heritage Management, Governance, and Distinct Identities in the Fraser Valley, B.C.*

The Fraser Valley is home to communities with diverse interests, including the management of heritage. These communities are represented by their local First Nations and Municipal governments, who make decisions on heritage matters on behalf of their residents. By assessing results from the perspectives of local representatives on archaeology, I explore the relationship between heritage, governance, and community identity. Rooted in heritage and expressed through governance, identity shapes Aboriginal and non-Native communities in the Fraser Valley, and their interaction with each other. Building relationships across these communities is necessary for effective heritage management within the rapidly developing Fraser Valley landscape.

King, Eleanor (Howard University)

[267] *The Social Dimensions of Production and Consumption Inside Late Classic Colha, Belize*

Research in the Late Classic Colha settlement revealed important internal differences within the community. Significantly, not all households were engaged in tool production. Many were involved in farming, some even in intensive agriculture. Excavation of selected non-chertworking households showed there were differences, too, in the range and qualities of tools and other materials available to their inhabitants. Simultaneous investigations in chertworking households showed a more uniform distribution of goods among them. However, analysis revealed important differences between workshops in how tools were made. This paper explores the social implications of such variability within a well-established, major production center.

King, Jason (University of New Mexico)

[284] *Creating Ancestorhood: Relatedness and Ideology in Woodland Period Mounds of Illinois*

Mortuary rituals include multiple meaningful acts that may both construct and convey social relationships and attendant ideologies. During the lower Illinois valley Woodland period (50 B.C. – A.D. 1000) mounds, and disposal practices recorded within, served as highly visible statements about social life and community. Mortuary rituals there materialized interactions of biological and social relatedness within the built prehistoric landscape. Using mortuary and biodistance data, this study tests the hypothesis that ancestorhood was generated via differential access to limited access mortuary program tracks. Changing mortuary practices are argued to reflect shifting ideas about the relevance of ancestors to social life.

King, Julia

[65] *Creating Digital Access to Archaeological Collections: The View from Maryland*

Responsible archaeological curation involves not only preserving but creating access to archaeological collections, something easier said than done. This paper describes the State of Maryland's project to digitize 40 of its most important collections in an effort to create access and generate use of the data found in those collections. The digital delivery of archaeological information has tremendous promise and is the wave of the future, but the creation and management of digital information is challenging, complex, and expensive, and requires a discipline wide discussion about the process and its many implications.

King, Rachel [276] see *Meskell, Lynn*

King, Robert (University of South Florida), E. Christian Wells (University of South Florida) and Meaghan R. Lawson (University of South Florida)

[109] *The Archaeology of Cultural Soilscapes*

In this paper we explore how archaeological research pertaining to human/soil dynamics manifest in "cultural soilscapes" can contribute new knowledge to address modern agroecological problems. We frame this discussion in the context of our recent research on sustainable agricultural practices in the Palmarejo Valley of northwest Honduras. Here we discuss our analysis of a mollic epipedon and a buried A horizon to consider the impact of modern and ancient tillage practices on soil organic matter and phosphate inputs. In doing so, we show how geoarchaeological studies of anthrosols can be used to inform contemporary agricultural decision making.

King, Stacie (Indiana University) [38] Discussant

Kingsley, Melanie (Brandeis University) and Zachary X. Hruby (Humboldt University)
[257] *Theorizing Inter-Site Elite Exchange: Long Distance Gifting and Commissioned Craft Production*

Recent analyses of the intra-site production and exchange of prestige goods in Classic Maya polities have provided more detailed information on the person-to-person socio-economic relationships between individuals and craft oficios. The long-distance movement of sumptuary items marked by these same individuals or their patrons has been explained through feasting and tribute practices. It is unlikely, however, that this was the only means of transport and, as such, we will explore a variety of possible gifting and/or commissioning practices for inter- and intra-site contexts as possible explanations for the movement and exchange of sumptuary goods.

Kingston, John D. [274] see *Turner, Bethany L.*

Kintigh, Keith [78] Moderator

Kinzig, Ann [134] see *Nelson, Ben A.*

Kipnis, Renato (Universidade De São Paulo)

[57] *Middle Holocene Archaeological Gaps and their Explanations*

Recent studies have suggested a gap in the archaeological record during the middle Holocene period in several regions of South America associated with climatic dryness. Although paleoclimate change might explain some extreme cases, like the Atacama Desert, it is not clear if the hiatus seen in non-marginal areas is the product of visibility, research bias, or real change in mobility and settlement pattern. In Central Brazil and Amazonia new data shows that the archaeological record is much more complex than previously perceived, and the need for high-resolution archaeological and climate data in order to understand middle-Holocene cultural reorganizations.

Kipnis, Renato [90] see *Shock, Myrtle P.*

Kirch, Patrick [156] see *Kahn, Jenny G.*

Kirvan, Chad V. [2] see *Hooper, John M. D.*

Kistler, Logan

[258] *Rock Art of Mammoth Cave, Kentucky*

Many Early Woodland petroglyphs and pictographs in the Mammoth Cave system appear to represent entoptic phenomena—visual percepts experienced cross-culturally under stimuli including sensory deprivation, fatigue, and psychoactive drug use. These percepts, often experienced in conjunction with more elaborate hallucinations, have been associated ethnographically with shamanistic visions and other ritual activities involving altered states of consciousness, and have been linked to modern and prehistoric artwork around the world. There is considerable evidence that drawings in Mammoth Cave were created under

conditions that induce entoptic phenomena, and therefore represents the geometric forms commonly associated with these rudimentary hallucinations.

Kitchel, Nathaniel

[265] *Charred Plant Remains from the Colebrook Site: a Small Paleoindian Campsite in Northern New Hampshire*

The analysis of charred plant materials recovered from the Colebrook Site, New Hampshire provides evidence regarding Paleoindian life in northern New Hampshire around 12,000 years ago. Such evidence goes beyond more common information on Paleoindian hunting and lithic procurement. The charred materials from Colebrook offer insight into what plants Paleoindian populations in the Northeast may have used for food or medicine, as well as information concerning paleoclimate and seasonality of site occupation. Such evidence allows the creation of a more robust model of Paleoindian life in the Northeast during the terminal Pleistocene.

Klarich, Elizabeth (University of California, Santa Barbara)

[15] *Pottery, Potatoes and Projectiles: Push and Pull Factors in the Development of Pukara* This paper explores the nature of population reorganization in the northwestern Lake Titicaca Basin of Peru during the Late Formative Period (500 BC- AD 400). Conclusions based on excavations by the author at the regional center of Pukara are compared to those from settlement pattern data collected by various projects in the area. These data sets are used in tandem to evaluate previously hypothesized push and pull factors—heightened political competition, increase of interregional trade, intensification of agricultural activities, and the centralization of ritual activities—influential in the development of this proto-urban center.

Klassen, Michael (Simon Fraser University)

[18] *First Nations and the Archaeology of Opposition: The Politics and Practice of Indigenous Archaeology in B.C.*

Indigenous archaeology is a growing force in the discipline in B.C. The idea of Indigenous archaeology, however, highlights a number of theoretical issues facing First Nations engaged in archaeological practice. These include the nature of Indigenity, the politics and practice of “archaeologies of protest”, and the concept of decolonization. Given the political dimensions of these issues, it is not surprising that multiple and at times conflicting theoretical voices inform this practice. Nonetheless, the emerging shift from a politicized “Indigenous archaeology” to a theorized “internalist archaeology” may lead to a distinctive practice that incorporates Indigenous perspectives and values.

Klassen, Michael [18] see Budhwa, Rick; **[18]** see Barney, Marie

Klaus, Haagen (Ohio State Univ) and Manuel Tam (Universidad Nacional de Trujillo, Peru)

[177] *Identity, Resistance, and Syncretism: The Bioarchaeology of Mochica Adaptation and Negotiation in the Colonial Lambayeque Valley, North Coast Peru*

While richly detailed bioarchaeological studies document how European colonialism negatively impacted Native American biology, corresponding visions of postcontact cultures, identities, and mortuary practices remained comparatively unexamined. Here, the first bioarchaeological study of postcontact Peru reveals a significant decline in health was inescapable for the indigenous Mochica of the Colonial Lambayeque Valley. Simultaneously, their burials did not reflect ethnocide, religious acquiescence, or collapse, but encoded syncretic interplays between the colonial order, Mochica agency, identity, cosmological roles of the dead, and resistance. Methodologically, we highlight an integrative, holistic configuration between mortuary analysis and bioarchaeology to decode symbolism and meaning in burial contexts.

Klein, Mike [284] see Duncan, Joshua F.

Kleinbach, Karl [311] see Wenzel, Kristen E.

Kleindienst, Maxine R. [205] see Blackwell, Bonnie A. B.

Kleinmartin, Hex

[163] *Iroquoian Longhouse Life: What goes on in there?*

In a spatial analysis of Iroquoian longhouses from the Mohawk Valley to Ontario, what can be said about the similarities and differences of the lifepaths of those who inhabited the cubicles? From the artifactual record, some cubicles do stand out from others and taking the household as a whole some patterns hold across the areas. Issues of status, task specialization and use of space will be examined.

Klessig, Barbara (University of Leicester & Humboldt State University) and René Vellanoweth (Humboldt State University)

[7] *Impressions in Asphaltum: A Look at Basketry and Cordage Impressions from CA-SNI-25*

This poster will detail basketry and cordage impressions found in asphaltum from San Nicolas Island site 25. San Nicolas Island is located off the southern coast of California and is part of the Channel Islands chain; in the ethnographic territory of the Gabrielino. Close up detail will show the structure and twist used in making baskets and cordage. This can provide insight into the styles of baskets woven and size of cordage used.

Kligmann, Debora (CONICET • UNIVERSIDAD DE BUENOS AIRES) and Milena Calderari

[208] *Diatoms and Ceramic Clay Sourcing: a Bad Marriage*

In order to answer the following old age question: was this ceramic vessel manufactured locally or not?, many archaeologists have turned to geoarchaeological methods such as diatom analysis to establish potential clay sources. In this paper we show how diatoms are introduced at different production stages during the manufacturing process of ceramic products. Finally, we proceed to test the efficiency of diatom analysis as an archaeometric measurement for clay sourcing.

Klink, Cynthia

[298] *A methodology for reconstructing Preceramic mobility strategies using lithic raw material characteristics.*

I present a methodology for using lithic raw material characteristics to reconstruct mobility strategies, with the specific aim of generating a more refined understanding of how the sedentarization process developed during the Preceramic in the Altiplano. To this end, I first link aspects of toolstone provenance and knapping quality to specific mobility components such as the importance of long-distance moves, settlement pattern predictability, and length of occupation span. These ideas are then applied to a database of over 1000 temporally diagnostic projectile points surface collected from the Rio Huenque-Ilave drainage in the southwestern Lake Titicaca basin, Peru.

[236] *Discussant*

Klokler, Daniela (University of Arizona)

[292] *Fishes to die for: faunal analysis of a funerary shellmound*

Ongoing research in southern coastal Brazil has identified a large shellmound site that was used exclusively as a cemetery. Its complex stratigraphy, spanning a period of approximately 700 years, alternates between burial deposits and thick layers of shells. Separate burial areas may have been used by various neighboring groups simultaneously. Faunal analysis of these deposits suggests the use of animals, predominantly fish, as part of the funerary ritual. This paper investigates the role of aquatic resources in shellmound mortuary ritual and the relationship of the ritual use of these resources to social organization

Klucas, Eric (Tierra Right of Way Services, Ltd.), Heather Miljour (Statistical Research) and Richard Ciolek-Torrello (Statistical Research, Inc.)

[304] *Late Archaic, Early Agricultural, Early Ceramic Period Architecture in southern Arizona*

Our research involved 45 completely excavated Cienega and Red Mountain phase

structures dating between 900 B.C. and A.D. 400. Significant variation in the construction of the superstructures, hearths, entries, and number and type of intramural pits was documented among structures dating to each phase. Using this variation, we identified preliminary morphological and functional categories. We also compare them to Cienega, Agua Caliente, and Tortolita phase architecture in the Tucson Basin and at the Kearny Site along the Gila River. We conclude with how this architectural variability can be used to better understand the forager-farmer transition in southern Arizona.

Knapp, A (University of Glasgow)

[268] *Hellenization, Colonization and Hybridization: Cyprus at the End of the Late Bronze Age*

Cultural encounters in the ancient Mediterranean were conditioned by everything from barter and exchange through military encounter to migration and colonization. This paper considers a range of material evidence to critique the 'colonization narrative' that dominates most interpretations of the end of the Late Bronze Age on Cyprus (1200-1000 BCE). Cyprus's material culture at this time reflects an amalgamation of Cypriot, Aegean and even Levantine trends, and is representative of a new élite identity emerging on Cyprus. Neither colonists nor conquerors, these migrants established new social identities as a result of cultural encounters here defined as aspects of hybridization.

Knapp, Rebecca

[235] *Microwear Analysis of Slate Tools from a Paleoeskimo Site in Newfoundland*

Microwear analysis was implemented in an attempt to determine the use of slate tools found at Phillip's Garden (EeBi-1), a Dorset Paleoeskimo site on the Great Northern Peninsula of Newfoundland. It was hypothesized that slate tools were used in skin processing activities. In an effort to test this hypothesis, reproductions of thirteen slate tools were made and used to process two seal hides. A high-powered microscope was then used to determine whether the artifacts' microwear resembled that of the reproductions.

Knappett, Carl (Dept of Archaeology), Ray Rivers (Imperial College London) and Tim Evans (Imperial College London)

[261] *Articulating scales in studying past social networks: a transdisciplinary approach*

While archaeologists are perennially aware of various forms of human interconnectedness, they have largely lacked workable methodologies to capture their nature. One means, overlooked until recently, is social network analysis. Within this a gap is emerging between 'microscopic', agent-based approaches and 'macroscopic', systems-based approaches. In our work, combining archaeology and statistical physics, we seek to avoid this polarity. Our particular focus has been regional interaction networks in the Aegean Bronze Age, but here we make some methodological points concerning this micro-macro split. We advocate a 'mesoscopic' approach that pays close attention to the nature and scale of both network nodes and links.

Knell, Edward (SWCA Environmental Consultants)

[53] *The Organization of Late Paleoindian Cody Complex Core Technology at the Hell Gap Site*

This paper continues with and expands on themes addressed in the Organization of Core Technology (1987). Minimum analytical nodule analyses on core-bearing nodules from two Cody complex components at the Hell Gap site provide clues to the on-site tool production and off-site transport trajectories employed by these hunter-gatherers. The trajectories include: (1) expedient on-site flake tool production, use and discard; (2) failed projectile point production from a blocky-core flake blank; and (3) production and off-site transport of flake tools or blanks from blocky and bifacial cores as part of a gearing-up trajectory. Intercomponent patterns of technological organization are evaluated.

Knight, Charles (University of Vermont) and Christopher Pool (University of Kentucky)

[279] *Formative to Classic Period Obsidian Consumption at Tres Zapotes, Veracruz, Mexico*

Bipolar and core-blade reduction technologies were identified throughout the Formative to

Classic period obsidian assemblage at Tres Zapotes, Veracruz, Mexico. A change through time in the relative reliance of each of these technologies was observed to correlate to the material types of obsidian used. While the quality of obsidian material types likely played a significant role in the reduction technologies employed, the intra-site distribution of these technologies suggests that issues of resource access were also at play.

Knight, Melissa (Doig River First Nation) and Chief Kelvin Davis (Doig River First Nation)

[18] *Towards Dane-zaa Cultural Heritage Stewardship in Northeast British Columbia: A Community Perspective*

Based on the wisdom and direction of the Dane-zaa Elders, this paper will outline one First Nation community's evolving relationship with the Crown, Oil and Gas Commission, industry and local consulting archaeologists towards the establishment of theoretical and methodological foundations for archaeological research that incorporate cultural histories and Aboriginal perspective. The integrity of our traditional use and spiritual areas are routinely challenged by the rapid state of development and conflicting agendas in northeast British Columbia. As the relationship with land is critical to Dane-zaa existence, threats to heritage resources and our sacred sites are effectively threats to our cultural survival.

Knight, Terry (UTE Mountain UTE Tribe), James Potter (SWCA) and Lynn Hartman (Ute Mountain Ute Tribe)

[222] *The Old Ute Trail in Southwest Colorado*

History indicates that Utes used southwestern Colorado in protohistoric and historic times. Oral history, archival data, and archaeological evidence from the Animas-La Plata project area illuminate the presence of the Ute people in the Durango area, in particular their use of The "Old Ute Trail," which passed through the project area and the old historical accounts dating back to the Rivera expeditions of 1765. This poster presents the latest information on the use and configuration of the trail between Ignacio, the headquarters for the Southern Ute Tribe, and Towaoc, the headquarters for the Ute Mountain Tribe.

Knight, Vernon, A. Brooke Persons (Department of Anthropology, University of Alabama) and Roberto Valcarcel Rojas (Departamento Centro-Oriental de Arqueología, Holguín, Cuba)

[319] *Site Characterization at El Chorro de Maíta, Cuba: Results of the 2007 U.S.-Cuban Expedition*

The late-period site of El Chorro de Maíta in eastern Cuba consists of a central cemetery surrounded by a large occupational zone, within which little prior work has been done. To systematically characterize the residential areas we excavated 276 tests on a grid, revealing a community of some 240 by 150 meters. The site at present is divided among numerous private parcels, and there has been much modern surface alteration and disturbance among these. Within three tracts, however, there are well-preserved intact deposits. Formal excavations in one of these revealed a surface hearth and associated remains suggestive of specialized activities.

Knipper, Corina [215] see Fisher, Lynn E.

Knobloch, Patricia (Institute of Andean Studies)

[179] *All-seeing Eye: Lewis-Williams and Dowson's entoptic model applied to the Andean Huarpa ceramic art of the Early Intermediate Period.*

Shamans communicate with spirits through an altered state of consciousness (ASC) from induced hallucinogens. Initially, neurophysical processes affect the visual system to produce involuntary "entoptic" images. Homo sapien sapien has not changed in 30,000 years so such images are depicted in many cultures. Geometric forms are common but, also, unusual rotational symmetry occurs. Lewis-Williams and Dowson's (1988) entoptic model for the Upper Paleolithic rock art might also represent ASC and, perhaps, shamanism. Their model and additional entoptic images are compared to the Huarpa pottery style that displays many entoptic-like designs. Thus Huarpa society may have had a shaman-based religious system.

Knowlton, Timothy (Berry College)

[79] "Back Then When There Was No Sky": The Antiquity of Celestial References in Classical Yucatecan Creation Myths

In this paper I demonstrate that many celestial references contained in Classical Yucatec language creation myths extant in colonial manuscripts were drawn from the literary tradition that had produced the hieroglyphic codices in prehispanic times. Using references to Venus as a test case, I address the methodological pitfalls involved in the use of ethnohistorical sources to enrich our reconstructions of ancient cosmologies. Like Homeric epic, the extant versions of Classical Yucatecan creation myths exhibit characteristics that indicate that they and the cosmologies they contain are composites of several epochs.

[79] Chair [79] Co-Organizer

Knudson, Kelly (Arizona State University)

[35] Oxygen Isotope Analysis in a Land of Environmental Extremes: The Advantages and Disadvantages of Isotopic Work in the Andes

In the Andes, the wide variety of environmental zones, from the hyperarid coast to the high-altitude altiplano, has enabled an increasing number of scholars to use oxygen isotope analysis of archaeological human remains to investigate residential mobility. However, many questions remain, including the mobility of water through the environment and the seasonal and annual variability of precipitation in the past. Here, the advantages and disadvantages of oxygen isotope analysis in the Andes, and beyond, will be explored using oxygen isotope data from archaeological human enamel and bone from Peru, Bolivia and Chile (c. AD 500-1500).

Knudson, Kelly [274] see *Torres-Rouff, Christina*; [177] see *Miller, Katherine A.*; [230] see *Frink, Lisa*; [274] see *Berryman, Carrie Anne*

Ko, Ilhong (Seoul National University)

[71] A Comparative Study of Korean Neolithic and Bronze Age Rock Art

This paper examines the rock art of prehistoric Korea. It compares, in particular, the Neolithic engravings of hunter-gatherers with the rock art of Bronze Age farming communities. The ultimate goal of the research is to explore how the production of Neolithic and Bronze Age rock art may have contributed, respectively, to the reproduction of hunter-gathering and farming ways of life in the Korean peninsula.

Kobti, Ziad [137] see *Kohler, Tim A.*

Koenig, Viola (Ethnologisches Museum) and Rainer Hatoum (Ethnologisches Museums SMB Berlin, Germany)

[300] Between oblivion and open access – Sensitive Cultural Material from the Northwest Coast in German Museums

For different reasons, collections gathered at the Northwest Coast throughout the 19th century found their way into German museums. Among them we find objects which today are classified as "sensitive". However, the appropriate treatment of these objects is subject of controversial debates. While the ongoing debate discusses the legal or illegal acquisition status of archaeological objects, no restrictions in Europe exist that regulate display or handling of archaeological or ethnological objects stemming from outside Europe I will introduce and discuss different cases exemplifying the Northwest Coast collections.

Koetje, Todd (Western Washington University) and Linda Grimm (Oberlin College)

[295] *Prototacha staminea* and seasonality on the Northwest Coast

Determining the seasonality of occupation for prehistoric sites in the Pacific Northwest has long been an important research goal. We approach this question with Sclerochronological data from the common bivalve clam *Prototacha staminea*, an important food resource whose remains are commonly found in sites along the Northwest Coast. Contemporary specimens were collected from Ala Spit, Whidbey Island, Washington monthly for a period of two years to form a control sample. Shell growth annuli were examined and compared to Archaeological specimens from several local sites, allowing approximate season of death determinations to be made.

Koetje, Todd [269] see Grimm, Linda

Koga, Yuko [180] see Fukuhara, Hironori

Kohler, Tim (Washington State University) and Ziad Kobti (School of Computer Science, University of Windsor, Windsor, Ontario)

[137] *The Effects of Exchange in the Village Ecodynamics World*

We can represent three kinds of exchanges in two different currencies in the VE world: generalized delayed reciprocity among related households; balanced delayed reciprocity among nearby but normally unrelated households; and exchanges among "hub nodes" (to be described). The currencies are calories (maize) and protein (meat). In this paper we monitor the effects of these exchanges on (1) global population levels and variances; (2) household location; (3) household stability of location; and (4) tendency of households to form spatial clusters resembling "communities" in shape and size. We discuss what changes would be needed to allow wealth accumulation.

[78] *Discussant*

Kohn, Alison

[268] *Hybridizing domestic architecture and the reorganization of postcolonial class hierarchies in La Paz, Bolivia*

This paper examines changing domestic architecture in a contemporary self-built neighborhood in La Paz, Bolivia since rural Aymara-speaking migrants founded it in the mid 1960's. I present here an ethnoarchaeological case study of the ways in which new architectural forms congeal at the intersection of the short term – the last 50 years of modern urban expansion, and the longue durée - settlement patterns in La Paz created through centuries of colonial urban segregation. I argue that the emergence of recent hybrid house-forms has been a critical part of changing class organization in La Paz.

Kohn, Sophie

[185] *He's Not the Skeleton They Thought She Was: A Reanalysis of Skeletal Material from Paquimé, Chihuahua*

This paper presents preliminary results of an ongoing re-analysis of skeletal materials from the Medio Period (1200-1450 AD) site of Paquimé in Chihuahua, Mexico. A reevaluation of the demographic profile of the skeletons has been undertaken. Preliminary results indicate significant differences between current and past determinations of sex, age, and the number of individuals per burial. Occasionally, this appears to be the result of mislabeling and mixture between burials during transport. A change in site demographics will have a significant impact on studies that rely on such data.

Kolata, Alan (University of Chicago) [178] *Discussant*

Kolhatkar, Manek (université de Montréal)

[189] *Les chaînes opératoires des sites paléoindiens récents de La Martre, Gaspésie (Québec)*

Nous allons présenter dans cet exposé certaines chaînes opératoires préliminaires reconstruites à partir des données récoltées sur les ateliers paléoindiens récents de La Martre, en Gaspésie (Québec). Nous commencerons par rappeler brièvement les principes de fonctionnement de cette méthodologie issue de la tradition de recherche française, et des ses différences majeures avec la 'séquence de réduction' américaine, suite à quoi nous justifierons le choix de notre approche en comparant nos résultats aux analyses précédemment effectuées sur ces mêmes sites gaspésiens.

Koon, Hannah [223] see Collins, Matthew J.

Koons, Michele (Harvard University) and Eileen Ernenwein (University of Arkansas, CAST)

[54] *Geophysical Archaeology at Tiwanaku, Bolivia*

Over the past 5 years intensive geophysical research was carried out at the site of

Tiwanaku in Bolivia. The first three years focused on ground-penetrating radar (GPR), with the addition of magnetometry, magnetic susceptibility, and conductivity in the last two years. The combined datasets cover over six hectares in the monumental core area. Excavations based on GPR data have revealed previously unknown archaeological features, and subsequent interpretation and integration with other geophysical data layers has shown the value of using multiple geophysical methods. Together the four geophysical datasets reveal considerable detail about Tiwanaku's buried urban landscape.

Kooyman, Brian [175] see *Pokotylo, David L.*

Kopperl, Robert (Northwest Archaeological Associates, Inc.), Christian Miss (Northwest Archaeological Associates) and Laura Murphy (Muckleshoot Indian Tribe)

[60] *Between delta and crest: The importance of mid-reaches of Puget Sound rivers to prehistoric settlement of a dynamic coastal landscape*

Large rivers feeding into Puget Sound provide abundant resources, terraces for habitation, and transportation routes for easy access to the Cascade Mountains and beyond. In this paper, the mid-Skagit River valley and the Enumclaw Plateau are compared in terms of pre-contact Native American occupation and adaptation to a dynamic environment that changed substantially throughout the Holocene. Both settings are along the western front of the Washington Cascades, a neglected area in regional syntheses of prehistory. It is precisely this setting, however, that offers a means of explaining the relationship between large-scale environmental changes and Native communities from Mountains to Sound.

[60] *Chair*

Kopperl, Robert [230] see *Partlow, Megan*; [60] see *Miss, Christian J.*

Kortum, Richard (East Tennessee State University) and Jay Franklin (East Tennessee State University)

[106] *Archaeological Explorations of Biluut 1, 2, and 3: An Extensive Petroglyph and Burial Complex in the Altai Mountains of Mongolia*

We highlight three years of petroglyph recordation at Khoton Lake in the Altai Mountains of western Mongolia. The glyphs span from pre-Bronze Age through the Turkic Period. In addition, we discuss the complex's myriad archaeological features: khirigsuurs, kurgans, altars, stone "compass" lines, earthen mounds, stellae, balbal, and stone men. Khirigsuurs, especially, are highly variable and display different forms from those in other regions of Mongolia. We outline our attempt at developing a typology for these features at Biluut.

Kosakowsky, Laura (University of Arizona)

[302] *Ceramics and Chronology of the Chan Site, Belize*

Ongoing analyses of the ceramics from the Chan Site have documented a long sequence of occupation beginning in the Early Middle Preclassic (800 BC) and continuing uninterrupted until the Terminal Classic/ Early Postclassic periods (AD 1200). Stratified excavations from both the small ceremonial center and settlement area have produced a rich and varied history of domestic and ritual behaviors. Furthermore, the ceramics from the Chan site present a unique opportunity to examine a long sequence from a small agrarian community, and its interactions with and the role of larger centers, both near and far, in the development of the site.

Kosakowsky, Laura [181] see *Valdez, Fred*; [87] see *Little, Nicole C.*

Kosiba, Steven (University of Chicago)

[178] *Making the Imperial Heartland: The Spatial Production of State and Social Difference during Early Inka Political Integration (Cusco, Perú)*

Throughout early state formation, the Inkas transformed select pre-Inka political centers within the Cusco area, rooting a diverse array of subject positions in sharply demarcated spaces, while representing such diversity within a unitary ideological and organizational frame. This paper explores how such spatial transformations enhanced preexisting social differences at various scales, thereby solidifying regional political integration through the

mitigated production of localized distinctions and factional rivalries. A multi-scalar analysis of spatial practices at Cusco area settlements will demonstrate how an aesthetic impression of consistency (state) was linked to the production of multiple social distinctions within local, previously occupied places.

[178] Chair

Koski, Steven [258] see Gifford, John A.

Kotegawa, Hirokazu [180] see Sato, Etsuo

Kovacevich, Brigitte (Yale University)

[16] *The Inalienability of Jades in Ancient Mesoamerica Among Elites and Nonelites*

The rarity of the jade, its hardness, durability, and its sacred color gave it a value incomparable to other materials in Mesoamerica. The investment of labor of the crafter, the esoteric knowledge used to create the objects, and the identity of the possessor(s) all contributed to the legacy of jades as inalienable possessions. Jades were gifted, kept out of sight, displayed, interred and even destroyed in honor of the inalienability, memory, prestige, and identity of the object and the possessor, which were mutually constituted. Evidence suggests that nonelites also possessed certain jades, which may have been inalienable wealth.

[16] Chair

Kovarovic, Kris (University College London) and Briana Pobiner (Smithsonian Institution)

[6] *Bones of Ol Pejeta: Neotaphonomic and Ecological Survey*

Here we introduce our longitudinal study, Bones of Ol Pejeta: Neotaphonomic and Ecological Survey. The Ol Pejeta Conservancy, Kenya consists of a game reserve and defunct ranch. The fence between the two was recently removed, allowing medium-large mammals to move freely between habitats previously restricted to them. Utilizing game census data and ecomorphic and taphonomic data gathered on bone transects in an array of habitats, we investigate subsequent long-term changes in mammal community relationships, predator-prey pressure, and habitat affiliations. Our aim is to refine the analogs by which we understand mammalian – including hominin – interactions within communities and in habitat mosaics.

Kramer, Stephenie [60] see Schumacher, James

Krasinski, Kathryn (University of Nevada Reno) and Gary Haynes (University of Nevada, Reno)

[91] *Cut Mark Misidentification as a Result of Modern Recovery Efforts?*

There is a dense literature on culturally inflicted cut marks on bone as an indicator of animal processing and raw material utilization. Cut mark morphology exhibits a high degree of variation because the length of blade, motion, angle of application, and force applied alter the shape of each. While conspicuous marks are often easily identifiable, modern bone modification can be misidentified as prehistoric. This study examines experimentally excavated elephant and cattle bones for cut marks produced unintentionally during recovery and preparation efforts. Cut mark morphology is examined under a scanning electron microscope and compared to known prehistoric marks.

Kraushaar, Angelica (Cultural Resource Office) and Michael Tarpley (LAARNG)

[311] *Overview of the LAARNG Cultural Resources GIS Database*

An important element of the LAARNG ICRMP is the development of a cultural resources geodatabase that can be used for management and research purposes. Three goals of the GIS include showing the locations of known resources, detailing site characteristics and associated artifacts, and creating a framework under which both managers and researchers with varying degrees of GIS expertise can conduct a variety of analyses.

Kremkau, Scott (Columbia University)

[232] *Late Horizon Communities in the Jequetepeque Valley*

Recent work in the Jequetepeque Valley, on the North Coast of Peru, suggests part of the valley underwent important social and political transformations during the Late Horizon. This paper will examine one of several small residential communities built along a previously uninhabited section of the Jequetepeque Valley during the Late Horizon. It will explore the various socio-political possibilities that might account for the creation of these sites and focus on local and elite interactions and relate changes in settlement patterns with changes in the political structure of the North Coast following the Inka conquest of the region.

Kreutzer, Daniel (University of Wisconsin-Milwaukee)

[300] *Agency Above Ground: Archaeologists as Brokers of Cultural Heritage*

The ethnographic study of archaeologists is a growing area of research where, typically, most ethnographers study archaeologists at their field sites, and frequently treat archaeologists as part of the site itself. What needs to be explored further in this context is the relationship of the archaeological site, including the archaeologists, to the local community. Because the demands for developing archaeological sites for heritage tourism continue to increase, such research has become critical, as there is a growing need for archaeologists to view themselves more as cultural brokers with their own competing interests in the site alongside other stakeholders.

Krigbaum, John (Dept of Anth Univ of Florida), Michael Pietruszewsky (University of Hawaii), Miriam T. Stark (University of Hawaii), R. Alexander Bentley (Durham University) and William Belcher (Central Identification Laboratory at JPAC)

[22] *New Perspectives on Diet, Ecology, and Residence during the Transition to History in the Mekong Delta*

We examine human skeletal variability from the Vat Komnou cemetery at the site of Angkor Borei, southern Cambodia. Our pilot study of 10 adults examines variability in diet (carbon and nitrogen isotopes) and geographic origin (oxygen and strontium isotopes) between c. 200 BC - AD 200. Preliminary results suggest a C3-based diet from at least two origin areas, and a group of females who appear to have immigrated from the same community. We discuss the results in terms of local environments of the lower Mekong basin, but also regionally, by comparison with previous findings from mainland and island Southeast Asia.

Krigbaum, John [83] see Coutts, Karen H.; [99] see Valentine, Benjamin

Kristjánsdóttir, Steinunn [246] see Palsdóttir, Albina H.

Kroefges, Peter (Universidad Autónoma San Luis Potos)

[213] *Examining prehispanic geopolitics using an expanded Xtent module in open-source GIS*

We present a new module for the free, open-source QGIS/GRASS software that assigns hypothetical geopolitical territories to archaeological or historical sites. It is based on Renfrew and Level's Xtent algorithm (1979), which calculates political dominance between centers and over space. We expand the Xtent model by integrating topographic features such as elevation and linear barriers and present its functionality in case studies using archaeological and ethnohistorical data from southern Mexico.

Kroot, Matthew (University of Michigan)

[168] *The Pre-Pottery Neolithic A of the Dead Sea Basin: Developing testable models for inter-site interaction*

A number of authors have recently proposed models for inter-site interaction in the Pre-Pottery Neolithic A (PPNA) of the southern Levant. The recently inaugurated 'Asal-Dhra' Archaeological will test various models of inter-site interaction in the PPNA. This poster is a description of the development of the various models tested by the 'Asal-Dhra' project, focusing specifically on the process of abduction as explicated by Charles Sanders Peirce and further developed by a number of later theorists.

Kruse, Melissa (Arizona State University)

[89] *Scale of Agave Production in the Perry Mesa Region, Central Arizona*

Recent survey results have documented the subtle but extensively modified agricultural landscape of Perry Mesa in Central Arizona. Agricultural modifications include: terraces, alignments, and rock pile fields. The context of rock pile field locations and their use for growing agave is presented. The scale of agave harvesting, for food and fiber, is determined using ethnographic information about agave production and the size of the prehistoric rock pile fields. Other information about agave production are also discussed including: the locations of large roasting pits, the distribution of tabular knives, and the presence of remnant agave plants.

Kruse, Melissa [289] see Spielmann, Katherine

Kuckelman, Kristin (Crow Canyon Archaeological Ctr)

[104] *Research at Goodman Point: The Settlement History of a Late Pueblo Community in the Central Mesa Verde Region*

Recent field research conducted by the Crow Canyon Archaeological Center at the Goodman Point Ruins Group Unit of Hovenweep National Monument documents the settlement history of one of the most populous ancient communities in the Mesa Verde region. Located within the Sand Canyon locality, the Goodman Point community was founded during the late Pueblo II period and included a great kiva and a cluster of farmsteads centered on a canyon-head spring. During the Pueblo III period, about A.D. 1260, the community aggregated around their spring, constructing possibly the largest village in the area just before regional depopulation about A.D. 1280.

Kudo, Yuichiro (Center for Chronological Research, Nagoya University)

[188] *A Chronological study of archaeological remains showing plant utilization during the Jomon period at the Shimo-yakebe Wet site, Tokyo, Japan*

Archaeological remains of the Jomon period showing utilization of plant resources such as wooden structures and mounds of Juglans or Aesculus fruits were excavated at the Shimo-yakebe site. We revealed chronology of these remains by radiocarbon dating and examined changes in the utilization of plant resources, particularly food resources. Radiocarbon dating showed that these remains were made during ca. 5300-2800 calBP, concentrated in five chronological groups. The utilization of food resources at the Shimo-yakebe site was more multi-layered than the previously proposed simple transition from Castanea in the middle Jomon to Aesculus in the late and latest Jomon periods.

Kuijt, Ian (University of Notre Dame), Alissa Nauman (Department of Anthropology, Hamilton College), John O'Neill (School of Archaeology, University College Dublin), Laura Moore-Shay (Department of Anthropology, University of Notre Dame) and Nathan Goodale

[49] *Changing settlement practices on Omey Island, Co. Galway, Ireland*

Archaeological survey of Omey Island, Co. Galway, Ireland, has identified over 100 prehistoric and historic sites on this inter-tidal island. The general absence of peat on the Northwest corner of Omey Island and lack of land development and disturbance from post-18th century agricultural practices has resulted in remarkable preservation conditions and outstanding archaeological visibility. Sites have been identified from the Mesolithic, Bronze Age, and later periods. The results of this survey are used to reconsider traditional views of rural coastal settlement systems and land use.

[276] Discussant

Kuijt, Ian [161] see Guerrero, Emma; [281] see Quinn, Colin P.; [193] see Goodale, Nathan B.; [172] see Carlson, Eric S.; [172] see Crossland, Nicole A.; [216] see Elliott, Elizabeth M.

Kuira, Purity [149] see Harris, J W K

Kunkel, Paul (SAFE/Saving Antiquities for Everyone, Inc.)

[108] *Creating an Online Cultural Heritage Training Resource for DoD Officers & Enlisted Personnel*

Ensuring best practice among U.S. service personnel to respect and safeguard cultural property while operating in theater requires continuous improvement in awareness building and training. A new element in this ongoing effort will be presented: an online cultural heritage training resource tailored for enlisted personnel, officers and senior staff serving in the Iraq and Afghanistan theaters of operation. The resource provides: summary and detailed recommendations for safeguarding cultural property; historical and cultural surveys; detailed data on significant sites and monuments; legal mechanisms, inspection and enforcement measures that apply to service personnel in each region; and much more.

Kurin, Danielle (Vanderbilt University) and Emmanuel Gomez Choque (Universidad Nacional de San Cristobal de Huamanga (Peru))

[320] *Forging LIP Chankas Social Memory and Identity in Andahuaylas, Peru: A Bioarchaeological Approach*

This paper examines the social identities and memorial traditions of members of the Chankas Confederacy, an amalgam of smaller ethnic groups that populated the south-central highlands of Peru during the Andean Late Intermediate Period (LIP) (AD 1000-1430). Preliminary analysis of human remains from mortuary caves in Andahuaylas--the Chankas heartland--reveal a diverse range of cultural practices, and may represent loci where Chankas social identity and memory was created, negotiated and reaffirmed. Preliminary results suggest new social formations following the fall of Wari (AD 600-1000), and advocate pathways to political authority that drew upon both antecedent practices and innovative traditions.

Kurota, Alexander [46] see Turnbow, Christopher A.

Kus, Susan (Rhodes College) and Victor Raharijaona (University of Fianarantsoa, Madagascar)

[229] *Small change in Madagascar: Sacred coins and profaned coinage*

One nineteenth century Malagasy ruler audaciously declared markets as equivalent in space and legislation to his royal compound, and state tax to be ritually presented as silver coins whose monetary significance was trumped by sacred symbolic significance. Yet, ever since Madagascar's engagement in the international politics of trade, coins have been "defaced" in Madagascar. This paper will move focus from the local and international politics of monetary and market control in Madagascar to multiple resolutions of the pragmatics and the poetics of the popular "defacement" of money in Madagascar using archaeological, ethnohistorical and ethnographic data.

Kusimba, Chapurukha (Chicago Field Museum)

[40] *The Human-Wildlife Conundrum: The Archaeological Heritage Debate in Kenya*

In recent years, critical debates on the management and benefits of national parks and protected areas have emerged. These areas are threatened by complex and intertwined ecological and socioeconomic factors and are rich in cultural and biological diversity deserves serious attention. Human encroachment, poaching, inappropriate internal development, mining and prospecting, pasturing, military activities, illegal logging, and inadequate management of resources plague parks. Park authorities have dispossessed indigenous people. Wildlife has caused human injuries and damaged properties. Local people illegally occupy areas designated as national parks. The problem and solution clearly lie in both arenas; unfortunately, it is not so simple.

Kuzmin, Yaroslav (Pacific Institute of Geography)

[22] *Pottery and Agriculture in the Terminal Pleistocene-Middle Holocene of Northeast Asia: Peculiarities of Spatial-temporal Relationship*

Pottery (i.e. fired clay vessels) originated in Northeast Asia (Japanese Islands, Russian Far East, and China) in the terminal Pleistocene, ca. 13,700-13,300 BP (uncalibrated).

Agriculture emerged only in the Holocene; the beginning of millet cultivation in Northern China is now dated to ca. 7700 BP, and rice domestication in South China could be as old

as ca. 10,000-8000 BP although only since ca. 5200 BP the evidences are unequivocal (Fuller et al. 2007). It is clear that pottery in Northeast Asia preceded agriculture, and clay containers were used by sedentary hunter-gatherers to store and process different types of food.

[245] see Speakman, Robert J.; [269] see Keates, Susan G.

Kuznar, Lawrence (Indiana - Purdue University Fort Wayne)

[137] *The Dynamics of Tribal Politics and the Distribution of Material Wealth: An Agent-based Simulation*

Archaeologists often use inequalities in the distribution of material wealth to infer social complexity. I use data from the Kapauku of Irian Jaya, indicate that substantial inequality can be present, even in tribally organized and simply ranked societies. Complex social dynamics underlie this distribution of wealth, and I present results from an agent-based model that elucidates some of the dynamic decision-making that leads to the complex alliance building that results in inequality. This same model demonstrates the dynamism in careers as men compete for social status. I conclude with implications for drawing inferences on social complexity from the archaeological record.

Kvamme, Kenneth [239] see Reid, Kenneth C.

Kwarsick, Kim

[219] *A Stone's Throw Away: Local Sources for Olympic Peninsula Dacites*

Within the boundary of Olympic National Park over 95% of flaked stone artifacts have been visually identified as a single raw material type – dacite. However, uncertainty exists concerning the provenance of this material. Though no bedrock outcrops have been located on the Olympic Peninsula, this paper presents complementary lines of evidence including x-ray fluorescence assessment, lithic technological assessment, and human land-use patterns to suggest that the material is likely derived from glacial outwash found in local river valleys and lowlands. Future research is directed toward pinpointing a local primary source while strengthening the limited fine-grained volcanic library for x-ray fluorescence characterization studies.

La Jeunesse, Roger, John Pryor (Department of Anthropology, California State University, Fresno), Kevin Miller (Department of Chemistry, California State University, Fresno) and Paul Langenwalter (Department of Anthropology, Biola University, La Mirada, California)

[7] *Phylogenetic relationship of mid-Holocene canines from California and their relationship to dog domestication*

This poster presents the methods and results of the sequencing 262 base pairs of the mtDNA hypervariable region of ten prehistoric dogs (*Canis [lupus] familiaris*) recovered from California archaeological deposits. These remains span the time period from Early to Late Holocene, circa. 7000 to 200 years BP. These data on the mitochondrial genome will help clarify the phylogenetic relationship between North American prehistoric canids and modern day dogs and wolves. These results will also help assess the significance of haplotype variability during the early stages of canid domestication in North America.

LaBelle, Jason (Colorado State University)

[143] *Landscape Investment among Folsom Foragers of the Rocky Mountains of Western North America*

Folsom landscape organization changed dramatically during the Younger Dryas, known locally as the Satanta Peak advance in the Rocky Mountains of Colorado. Regional reorganization follows hundreds if not thousands of years of colonization efforts by earlier populations. Folsom sites, while numerous, are hardly uniform in size and structure. Logistical camps, such as Lindenmeier, were repeatedly reoccupied and used during cold weather seasons. Their importance suggests an increased need for predictable and sustainable resources. Stylistic diversity among contemporaneous projectile point types suggests a complex social landscape. Thus, the period marked a time of mapping of resource structure, settling in, and intensification.

Lacadena, Alfonso (Universidad Complutense de Madrid)

[79] *Animate Versus Inanimate: The Conflict between Mayan and European Astronomical Traditions in Mayan Colonial Documents*

In colonial Mayan documents there is a contradiction in how celestial bodies are counted, in some cases using the numeral classifier –tul (for human and supernatural beings) and in others the numeral classifier –p'el (for inanimate beings). In this work it is proposed that such contradiction is only apparent, reflecting the conflict between two great astronomical traditions: the original pre-Columbian Maya, who conceived of celestial bodies as animate beings, and the recently acquired European one, which considered celestial bodies as inert objects.

Lacroix, Dominic (University of Calgary)

[81] *Simulated ground-penetrating radar anomalies as a tool for survey planning and data interpretation*

The use of geophysical surveys in archeology is gaining importance; however, results are often used solely as a mapping tool rather than as a primary line of evidence for archaeological interpretations. Limitations are due to the inherent complexity of geophysical datasets. Although rarely used in archeology, computer simulations are omnipresent in environmental geophysics when interpreting complex subsurface geometries. Synthetic models are simplified representations of buried features and stratigraphy. These are subjected to virtual conditions that replicate geophysical survey conditions. Case studies are used to demonstrate the value of using synthetic models to help archaeological survey planning and data interpretation.

Ladefoged, Thegen (University of Auckland), Charlotte Lee (Stanford) and Michael Graves (University of New Mexico)

[33] *Modeling Life Expectancy and Surplus Production of Dynamic Pre-contact Territories in Leeward Kohala, Hawai'i*

Hawaiian territoriality evolved in response to the ecodynamics of changing populations set within shifting socio-political structures. Modeling agricultural surplus production and life expectancy of various prehistoric and protohistoric territorial configurations in the leeward Kohala dryland field system identifies the costs and benefits associated with dynamic territorial units. The analysis suggests that in the most recent territorial configuration certain segments of society had enhanced fitness in terms of access to agricultural resources at the expense of others. While this territorial configuration created differentials in individual fitness, the overall potential for surplus generation and possible redistribution was maximized.

Ladefoged, Thegen [156] see Mulrooney, Mara A.

Lafe, Ols

[160] *Coastal Settlements of Albania from Prehistory to Iron Age*

The evidence for prehistoric occupation of the Albanian Adriatic and Ionian coast and their immediate interior hinterland is reviewed. The results of new research projects alongside those of the past in order to determine the degree to which prehistoric Albania was or was not integrated into Mediterranean trade networks, in particular those that exploited Adriatic routes are discussed. Recent evidence indicates that prehistoric settlement, accompanying trade and networks may have disappeared through time.

Laffoon, Jason, Edwin Crespo (Department of Social Sciences, University of Puerto Rico, Rio Piedras), L. Antonio Curet (Department of Anthropology, Field Museum of Natural History), Laure Dussubieux (Department of Anthropology, Field Museum of Natural History) and William Pestle (Department of Anthropology, University of Illinois at Chicago)

[319] *Strontium Isotope Analysis of Ancient Human Remains from Puerto Rico Utilizing LA-MC-ICP-MS*

The application of strontium isotope analysis to studies of prehistoric migrations has permitted a reappraisal of the role of migration and migration-related processes in the prehistoric developments of various regions of the world. Strontium isotope analysis

permits direct assessments of individual migrations based on the examination of remains of individuals themselves as opposed to relying on the movement of objects or ideas as proxies for actual migration. This study presents results of the first large-scale application of this approach to ancient Caribbean populations. The utilization of LA-MC-ICP-MS contributes to the development of alternative and potentially less destructive methods of analysis.

LaFond, Andre (Western Cultural Resource Management)

[2] *Archaic Structures in the Trans-Pecos Region*

Although rare in the Trans-Pecos region, Archaic pit structures have been previously reported at the Keystone Dam near El Paso. Due to their simple construction, structures such as these have sometimes been interpreted as reflecting short-term occupations (Miller and Kenmotsu 2004). However, O'Laughlin (1980) reported that the Keystone Dam structures most likely reflected seasonally sedentary occupations. Excavations at site 41CU660 recovered additional data from a Middle Archaic activity area with a simple brush structure and a Late Archaic pit structure. The new data are presented here and the implications regarding Archaic subsistence and settlement patterns are explored.

Lagen, Christopher (Institute of Archaeology University College London)

[272] *Non-Destructive Analyses of the Pewter Hoard from Cheapside, London*

This study examines a hoard of Anglo-Saxon pewter brooches, rings, and beads found in Cheapside, London, now in the Museum of London, representing a jeweller's stock. Non-destructive XRF and SEM-EDS analyses were performed to determine the composition of the individual items within the hoard, while stereomicroscopy and SEM imaging shows their method of manufacture. Stylistic comparisons were made with known Saxon and Viking pewter material. These analyses allow the objects to be placed within a larger framework of late Anglo-Saxon material culture and to better understand the development of pewter as a material.

Lagia, Anna

[291] *The Status of Approaches to Archaeological Human Remains in Greece*

Much of the history of the study of human skeletal remains in Greece placed an uneven emphasis on the excavation, curation and analysis of "eminent" skeletons, and the application of craniometrics to investigate racial histories. Concurrently, research pioneered by Angel focused on questions of demography and population health. During recent years research has shifted increasingly towards the a) exploration of archaeologically or historically based research questions, b) use of standardised recording systems c) application of current techniques (eg stable isotope analysis, aDNA, SEM), and d) the integration of concepts rooted in archaeological theory and the Osteological Paradox to interpretation.

Lake, Mark (University College London)

[137] *Agent-based simulation of hunter-gatherer - farmer interaction in the spread of farming*

This paper discusses the use of agent-based simulation to study hunter-gatherer - farmer interaction in the spread of farming during the European Neolithic. Whereas researchers have traditionally tended to assume either rapid replacement of hunter-gatherers by farmers or indigenous development, a significant benefit of an agent-based approach is that it allows the nature of the interaction to emerge as the simulation is run.

Laland, Kevin (University of St. Andrews) [100] Discussant

Laluk, Nicholas (White Mountain Apache Tribe - University of Arizona), John Murray (Blackfeet Tribe), Kacy Hollenback (University of Arizona) and Maria Nieves Zedeno (University of Arizona)

[10] *Kutoyis: Blackfeet Collaboration and Archaeological Interpretation*

Not until recently have there been attempts to integrate Native American traditional and practical knowledge of land use and scientific archaeology, with the goal to promote heritage preservation and education. The Kutoyis Site in Glacier Co, northern Montana, is

one such case. Located on the Two Medicine River—the heart of Blackfeet country--the site consists of a buffalo jump with associated butchering, drive-line, and campsite components. In addition to being an example collaborative work with the Blackfeet Tribe, the Kutoyis project is also a model for developing long-term trusting, responsible, and respectful research that will benefit all parties involved.

Laluk, Nicholas [10] see Zedeno, Maria N.; **[10]** see Reitze, William Thomas

Lam, Yin-Man (University of Victoria) and Christopher Norton (Hunter College, CUNY)

[75] Accounting for Taphonomic Processes in the Interpretation of Archaeological Faunal Assemblages: An Example from Xujia Yao

Taphonomic processes – in particular, the preferential destruction of certain types of bones by both humans and natural agents – represent an obstacle to the efforts of zooarchaeologists to reconstruct the nature of prehistoric hunting strategies. Bone density is an important predictor of the ability of skeletal elements to resist such processes.

Accurate bone density values have helped to shape our analytical methodology in quantifying archaeological faunal remains. Bone density values for equids derived by computed tomography show a high correlation with the long bone representation of equids from the site of Xujia Yao in the western Nihewan basin.

[75] Co-Organizer

Lambert, Patricia [9] see Simms, Steven R.

Lan Cuong, Dr. Nguyen [141] see Huffer, Damien G.

Lanata, Jose (LCHES - University of Cambridge) [236] Co-Organizer

Lanata, José Luis [57] see Garcia-Herbst, Arleen

Landis, Emily (National Geographic Society) [283] Discussant

Landreth, Frances (Gila River Indian Community, CRMP)

[20] Hohokam Social Relationships and Variability in Cremation Practices along the Middle Gila River

Variation in cremation practices among the Hohokam is well documented, and four principal forms are generally recognized. However, relatively little attention has been given to inter-regional variation in cremation. Recent excavations in the Gila River Indian Community have substantially increased cremation data available from this area. This paper examines variation in cremation practices among villages with ballcourts and those lacking them along both the middle Gila and lower Salt Rivers. Cremation pit size, bone weights, and accompaniment diversity as well as counts are considered. These data are employed to explore possible social relationships between different segments of communities.

Lane, Kevin (University of Manchester)

[237] Off the pad: Storage in Inka Puna administrative sites

Developing on previous research that reassessed the role played by herding in late Prehispanic society in the Ancash highlands of Peru this paper examines the different forms of meat and fodder storage at high altitude sites, during the Inka period (AD 1480-1532). The focus is on the recently discovered site of Intiaurán a 37ha. Inka administrative centre located in the Puna and its associated outliers, such as estancias, corrals, charkas, artificial bofedales and dams.

Lane, Paul (University of York, UK)

[190] Archaeologies of East African Pastoralist Landscapes: Places and Paths of Memory

This paper examines the trajectories of pastoralism in East Africa from its appearance 4000-4500 years ago until c. 1800 CE, so as to develop a better understanding of the changing significance of place and path within different pastoralist societies over this period. Rather than reproducing a conventional narrative of the evolution of pastoralism in

the region as based on archaeological and supporting zoological and environmental evidence, the paper will focus instead on discussing the interplay between path-making and place-making in pastoralist societies and how these tensions are given material expression in the landscape and so become amenable for archaeological study.

Lange, Frederick (LSA Associates)

[59] *Greater Nicoya and the Mesoamerican/Chibchan Interface*

Beginning with Samuel Lothrop's "variegated hues" in the early 1920s, then this author's proposed "buffer zone" in the 1970s, followed by Lange and Bishop's "northern and southern sectors" in the 1980s, Greater Nicoya has occupied a key location along the southern Mesoamerican/Chibchan interface. The dynamics of this interface have remained poorly understood because of research myopia on both sides of the international boundary. This paper summarizes the results of the Greater Nicoya Ceramic Project and the diachronic development of ceremonial artifact complexes and artifacts as keys to understanding the dynamics of this land of "variegated hues".

Lange, Hans [17] see Darwent, Christyann M.

Langenwalter, Paul [7] see La Jeunesse, Roger

Langer, Jessica, Adrian Evans (Division of Archaeological, Geographical, and Environmental Sciences, University), Randolph Donahue (Division of Archaeological, Geographical, and Environmental Sciences, University) and William Lovis (Department of Anthropology and MSU Museum, Michigan State University)

[303] *"Black chert" sourcing and implications for assessing hunter-gatherer mobility strategies in northern England*

Mesolithic hunter-gatherer mobility and raw material procurement locales have been topics of interest in northern England. We present the results of two studies investigating the potential for geochemically sourcing "black chert", using ICP-AES, ICP-MS and LA-ICP-MS. Several geological sources of black chert are known, and it is commonly present at upland Mesolithic sites along the Pennines. In total, six geological sources have been sampled and analysed, along with black chert artefacts from two upland Pennine archaeological sites. The results demonstrate that the sources can be differentiated from one another, revealing the potential of this approach for a larger scale project.

Langston, Lucinda [258] see Franklin, Jay D.

Lape, Peter (University of Washington), Daud Tanudirjo (Gadjah Mada University, Indonesia), Gyoung-Ah Lee (University of Oregon, USA) and Sue O'Connor (Australian National University, Australia)

[22] *New Evidence for Early Agriculture in Island Southeast Asia*

The nature of earliest agriculture in Island Southeast Asia (4000-3500 BP) is relatively unknown, but assumptions about it play a large role in theories about possible human migrations into the region from mainland Asia and subsequently out of the region into Near and Remote Oceania. This paper considers the background of research on this topic from a broad regional perspective and presents new data from a recently excavated early agriculture site on the island of Pulau Ay, in eastern Indonesia.

LaPierre, Kish (California State University, Bakersfield)

[7] *Investigations of a Rock Feature Complex at the Eastern Searles Lake Site (CA-SBR-12134/H) in the Western Mojave Desert, San Bernardino County, California*

The purpose of this investigation is to look at prehistoric architecture, thus rock features, of the Western Mojave Desert and even more specifically at the Eastern Searles Lake site (CA-SBR-12134/H). The intent of this study is to determine function or purpose of these architectural remains in order to understand site function. To completely address research questions the following methods included; 1.) GIS mapping; 2.) analysis of temporally diagnostic artifacts; 3.) obsidian hydration; 4.) radiocarbon dating on charcoal samples; and 5.) thermoluminescence of pottery.

Larkin, Karin (University of Colorado at Colorado Springs)

[185] *Community Networks, Regional Powers: Continuity and Change in the Casas Grandes Periphery*

The southern periphery of the Casas Grandes culture area, which includes the Babicora Basin, Sta. Maria Valley, & Sta. Clara Valley of Chihuahua Mexico, was both distinct from and yet linked to the Paquimé power network. Although incorporated into Paquimé's sphere of influence by the Medio Period, the Southern Zone's inhabitants demonstrated considerable continuity in their lifeways throughout this pivotal era. In this paper, I argue that local community networks provided a powerful lens through which Southern Zone peoples accommodated the social changes engendered by the growth of Paquimé.

Larmore, Sean [62] see Gilmore, Kevin P.

Laroulandie, Véronique [69] see Cochard, David

Larralde, Signa (Bureau of Land Management, Rio Puerco Field Office)

[2] *Rapid Update Archaeological Contexts in the Rio Puerco, New Mexico*

Archaeological contexts summarize data for a region so that fieldworkers have a background in the kinds of archaeological resources present and the research questions that are pertinent to that region. The use of contexts has been criticized - contexts are difficult to keep up to date, especially in areas where there is a high volume of projects. This poster illustrates one option for updating contexts frequently so that they are useful in guiding fieldwork and research.

Larralde, Signa [125] see Schlanger, Sarah H.

Larsen, Clark (Ohio State University), Basak Boz (Selcuk University), Christopher Ruff (Johns Hopkins University), Lori Hager (University of California Berkeley) and Simon Hillson (University College London)

[276] *Gender, diet, and mobility at Catalhöyük: health and lifestyle in the Anatolian Neolithic*
At its peak, Çatalhöyük was the home of some 3500 to 8000 people. Study of the skeletal remains (n=304) reveals differences between men and women in health and physical activity. Dominance of relatively short stature for both males and females suggests suboptimal nutrition. However, the higher prevalence of dental caries in females and greater skeletal robusticity in males reveals important sex differences in diet and lifestyle. These differences provide new perspective on how these Neolithic farmers navigated a complex landscape in their acquisition and consumption of food resources and explain the relative success of this long-term settlement.

Larsen, Curtis [224] see Schuldenrein, Joseph

Larson, Greger (Uppsala University) and Keith Dobney (Durham University)

[223] *Ancient DNA from Domestic Animals as a Means to Track Human Migration*
Domestic animals formed a crucial component of the Neolithic package carried by migrating early farmers away from the primary centers of the origins of agriculture. These animals can therefore be used as effective proxies for Neolithic and more recent human migrations across the globe. In addition, the spatial, and more importantly, the temporal time depth offered by ancient DNA analysis can reveal the independent layers of the modern palimpsest of human and domestic animal distributions. This paper will focus on the shifting phylogeographic patterns of separate pig lineages and their power to reveal fine-scale human movement and novel migration routes.

Larson, Mary (University of Wyoming) [53] *Discussant [199] Discussant*

Larson, Shawn [36] see Jones, Terry

Last, Jonathan [276] see *Biehl, Peter F.*

Latimer, Jared [24] see *Rieth, Christina B.*

Lau, George (Sainsbury Research Unit)

[73] *Coast-highland interaction in highland Ancash, Peru, during the 1st millennium AD*
This presentation examines patterns of interaction of Recuay tradition groups, comparing research at a village (Chinchawas) and a large regional center (Yayno). Two types of coast-highland interaction are discussed: trade and stylistic. Whereas stylistic interaction was most prevalent during early periods, trade interaction with the coast became more prominent later. Wari expansion helped to open up coast-highland networks in the Callejón de Huaylas, but not in the eastern highlands. Also, settlement size or economic power appear less important for the intensity/type of long-distance interaction than location and local cultural prerogatives (cults, traditions in making, use contexts).

[73] *Co-Organizer*

Laubichler, Manfred [100] see *Pyne, Lydia*

LaViolette, Adria (Dept. of Anthropology)

[76] *Private and Public Signification of Authority at Pujini, Pemba Island, Tanzania*
The 15th-16th-century Swahili site of Pujini is known locally as Mkame Ndume, the man associated with this tiny but elite settlement, which continues to hold significance in the modern landscape of power on Pemba. Pujini's lifespan was one in which tensions among larger towns on Pemba ran high. Excavations revealed a series of features which provide insights into how Mkame Ndume and others who lived there signified elite status for their own consumption in both sacred and domestic spaces, and sought to authorize power to potential regional allies and opponents through more visible Swahili symbols.

Law, Wallace (Australian Cultural Heritage Management)

[252] *PAD 3 Rockshelter: A Mid-Holocene Archaeological Record from the Inland Pilbara, Western Australia*
Recent excavations at PAD 3 rockshelter recovered a well preserved mid-Holocene aged archaeological deposit. The recovered materials include ten stratigraphically separate hearth features with associated stone tools and organic materials, including backed artefacts, charred bone, grasses, paperbark, and leaves. Radiocarbon dates from the hearth sequence indicate that the rockshelter was initially occupied around 6900BP and used intermittently until 2400BP. The following paper presents the findings of the PAD 3 rockshelter excavations and discusses the implications of this data for our understanding of the inland Pilbara archaeological record.

Lawson, Meaghan R. [109] see *King, Robert*

Lawton, Crorey and Kathleen Lawton (Middle American Research Institute, Tulane University)

[307] *The Envelope Please: Blind testing of microwear experiments*
Blind testing as part of lithic microwear analysis continues to be used as a rite of passage for use-wear analysts. An experimental program was recently undertaken to address stone tool use in the Petén Lakes region of Guatemala, and has included the traditional blind tests as part of the project certification. But what happens when the results do not hit the desired target? This paper addresses three issues: 1) how current and previous experimental programs justified blind-test errors, 2) historic changes in the reliance in these blind tests, and 3) how these changes can be incorporated into ongoing research.

Lawton, Kathleen [307] see *Lawton, Crorey*

Lazcano, Carlos [150] see *Serra, Mari C.*

Lazcano Arce, Carlos (Coordinación de Humanidades-UNAM) and MariCarmen Serra (Coordinación de Humanidades, UNAM)**[150] Centros monumentales durante el Formativo**

El periodo Formativo se ha considerado como el momento durante el cual los grupos que habitaron Mesoamérica tuvieron asentamientos definidos como villas y aldeas. Fueron estos lugares de fundamental importancia, pues en ellos realizaron sus actividades cotidianas y su vida productiva. Sin embargo, este punto de vista ha generado una idea incompleta sobre el tipo de estructuras y espacios que estos grupos construyeron. Por lo que este trabajo establece cómo las sociedades de este periodo, concentraron y realizaron importantes esfuerzos en la construcción de estructuras monumentales, hasta ahora comúnmente conocidos como centros-ceremoniales.

Lazarus, Paula Kay [195] Chair**Le Blanc, Raymond [260] see Castillo, Victoria E.****Le Bourdonnec, François [241] see Lugliè, Carlo****Lea, Joanne****[293] Considering Public Archaeology in Canada**

Public archaeology programs have developed across Canada in isolation from one another since the 1980s. Several studies in Canada examined attitudes that Canadians have about archaeology, and attitudes that archaeologists hold about public archaeology, but not the relationship between the two sets of data. Few public archaeology programs in Canada have conducted evaluations of their effects. To address the above situation, research was undertaken about the understandings about public archaeology and about where these understandings converge and diverge from understandings held by participants in public archaeology programs across Canada. This paper presents results from that research and recommendations based upon them.

Leach, Melinda [214] see Swarson, William**Leach, Peter (John Milner Associates, Inc.)****[287] Ground-Penetrating Radar Investigation of the Glidden Point Midden, Newcastle, Maine, USA**

Ground Penetrating Radar (GPR) survey was conducted on the Glidden Point oyster midden in Newcastle, Maine, USA. The Glidden Point midden comprises one large, central heap that was built sporadically. Numerous, stacked reflectors in the central heap are interpreted as successive periods of shell deposition and abandonment. Dipping clinoforms prograde to the southwest from the central heap, implying later stages of midden building. The midden thins to the northeast and to the west and is underlain by stratified glacial sediment. Comparison with stratigraphy from Johnson's 1930s excavation show vertical resolution of the GPR record of 10 – 20 cm.

Lech, Veronica (Idaho State University), Herbert D. G. Maschner (Idaho State University) and Matthew W. Betts (Canadian Museum of Civilization)**[36] Sea Mammal Hunters of Sanak Island, Alaska: A Zooarchaeological Study of Social and Environmental Impacts on the Ancient Aleut Subsistence Economy**

Midden excavations as part of the Sanak Island Biocomplexity Project have generated a 4500 year time series of marine mammal remains and one of the largest zooarchaeological samples in the Gulf of Alaska. Both changing climatic regimes and changing socio-political dynamics have caused perturbations in harvesting patterns, as seen in the frequency of Phocids, Otariids, and sea otters. Preliminary data demonstrate that major climatic shifts, such as the Neoglacial, Mediaeval Warm Period, and the Little Ice Age, had clear impacts on the distributions of marine fauna while increasing social complexity, changing demography, and Russian Imperialism caused equally dramatic changes.

LeCount, Lisa (University of Alabama) and Jason Yaeger (Wisconsin-Madison)

[181] *Tunnel Vision: What We Know About Cunil-phase Materials and Contexts at Xunantunich, Belize*

Beneath Xunantunich's El Castillo acropolis lie the site's earliest deposits, dating to the terminal Early Preclassic Cunil phase. Tunnels at the base of the Castillo exposed more than 40 meters of sticky black paleosol containing well-preserved Cunil pottery and other remains. Here, we discuss the tunnel's stratigraphy, paying particular attention to the articulation between the Cunil-bearing paleosol and later architecture. Additionally, we describe the Cunil pottery and compare it to other contemporary assemblages in the Belize valley to evaluate current understandings of the earliest lowland villagers and their local and long-distance relationships.

Ledlow, Susan [46] see Meegan, Cathryn

Lee, Charlotte [33] see Ladefoged, Thegn

Lee, Esther (SUNY, Binghamton), D. Andrew Merriwether (SUNY, Binghamton), Lisa Anderson (New York State Museum) and Vanessa Dale (New York State Museum)

[223] *DNA Analysis of Schuyler Flatts Burial*

Located along the Hudson River in the Town of Colonie, NY, human remains of possible African ancestry were found in the burial grounds of Schuyler Flatts, owned by the locally prominent Schuyler family from the 17th through the early 19th centuries. DNA analysis was carried out on seven adults from the burial using both mitochondrial DNA and nuclear STRs to infer relatedness and geographical origins. Results indicate that the seven individuals are not maternally related with three identified as haplogroup L and one as haplogroup X. Further analysis will provide insight on labor enslavement in rural colonial Albany.

Lee, Gyoung-Ah (University of Oregon), Gary Crawford (University of Toronto), Li Liu (La Trobe University) and Xingcan Chen (Institute of Archaeology, Chinese Academy of Social Sciences)

[22] *Origins of Soybean in East Asia: Comparative, Interdisciplinary Perspectives*
Archaeobotanical research in East Asia begins to reveal information on the early distribution and diversity of soybean. The relationship of soybean to humans probably began during the Neolithic period in China, while the best data for cultigen is from the Bronze Age in Korea. Documenting the appearance of cultigen is difficult because of the problems distinguishing cultigen from the wild. Soybean-bearing sites are in the regions where wild soybean is distributed and that have a long history of agriculture and social complexity. This paper integrates interdisciplinary evidence to provide a more holistic picture and to raise questions about soybean domestication.

Lee, Gyoung-Ah [22] see Lape, Peter V.

Lee, Morgan (South Puget Sound Community College), Launi Vantine (Central Washington University) and Stephen Hackenberger (Central Washington University)

[188] *GIS Models of the Ancient Wetland Resources of Eld Inlet: Subsistence and Settlement Analysis for the Qwu?gwes Wet Site, Olympia, Washington, USA*

We have developed preliminary GIS models of the ancient resources of Eld Inlet, the catchment that contains the Qwu?gwes wet site in the lower reaches of Mud Bay. The objective is to compare archaeological natural resources to what can be expected within Eld Inlet. The Squaxin Island Tribe today defines seven separate inlets as regions managed by large extended families. We expect that Eld Inlet was used by such a cooperative family for several millennium. Our models will illustrate how the resources found at Qwu?gwes compare with what is expected within Eld Inlet and where other wet sites may exist.

Lee-Thorp, Julia (University of Bradford), Jane Evans (NERC Isotope Geosciences Laboratory), Janet Montgomery (University of Bradford), Maura Pellegrini (Istituto di Biologia Agro-Ambientale e Forestale (CNR)) and Randolph Donahue (University of Bradford)

[35] *Testing the assumption of faunal migration in the hunter-gatherer seasonal mobility model of Mediterranean Europe*

We address animal mobility, a key assumption of the hunter-gatherer seasonal mobility model in the European Upper Paleolithic, using a combination of oxygen, carbon and strontium isotopes, as a prelude to addressing human mobility. Sequential isotope profiles for teeth of Equus hydruntinus and Cervus elaphus from four archaeological sites located on the central Italian coast and uplands show that seasonal changes dominate $^{18}\text{O}/^{16}\text{O}$ profiles. Evidence for high elevation exists in some teeth, but altitudinal changes are not apparent, although there are challenges to establishing this from $^{18}\text{O}/^{16}\text{O}$. Our data also suggest that the ranging behaviors of the two taxa differed.

Lee-Thorp, Julia [35] see Sponheimer, Matt; [218] see Copeland, Sandi R.

Leftwich, Brent (UC Santa Barbara)

[202] *Bedrock Mortar Morphology and Placement in the Sierra Nevada*

Bedrock mortars, one of the most ubiquitous cultural features of the Sierra Nevada, vary in their morphology dependent on their function. Utilized mainly for processing acorns, bedrock mortars in this region have the potential to be prime indicators of prehistoric behavior, particularly of settlement patterns and decision making. Using quantitative analysis, GIS modeling, and the ethnographic record, this study attempts to address these aspects of behavior from data collected from hundreds of bedrock mortar sites from the central Sierra.

Legg, Robert [30] see Anderton, John B.

Lehner, Joseph (Cotsen Institute of Archaeology University of California - Los Angeles)

[165] *Recent Research at Kerkeneis Dað*

Recent research at Kerkeneis Dag, the site of a major Iron Age urban center in Central Anatolia, consisted of three main efforts. The combined results of a remote sensing survey of the Palatial Complex and environs further clarified the characterization and organization of internal structures, possible architectural phasing and the relationship to adjacent compounds outside of the complex walls. A new technique for testing pedestrian simulation models was further tested by excavating and sampling street sections. A detailed/multi-faceted analysis of metals began in order to elucidate the heretofore unknown metal acquisition networks and economy during the Central Anatolian Iron Age.

Lekson, Stephen [228] Discussant

LeMoine, Genevieve [17] see Darwent, Christyann M.

Lemonnier, Eva

[14] *Neighborhoods in Classic Lowland Maya Societies: Identification and Definition*

In Classic Lowland Maya settlement pattern archaeology there is a very recent interest in intermediate residential units, due to new ethnohistoric, epigraphic and archaeological data bearing on elites competing for the power with kingly dynasties. Their residences dispersed all over the residential zone among commoner settlements, would have represented a barrio focus (Ashmore 1988). But these neighborhoods, not easily defined morphologically, pose a methodological issue: how can we identify them archaeologically? This paper will attempt to answer this question by studying the La Joyanca settlement pattern compared to Cobá and Copán.

[14] *see Arnauld, Charlotte*

Lenert, Michael (A.D. Marble & Company), Dana Lepofsky (Simon Fraser University) and Sue Formosa (Views, Inc.)

[52] *Community-Level Interaction at Sxwoxwiymelh*

Sxwoxwiymelh (the Katz site) is the largest pithouse settlement in the upper Fraser Valley, composed of 39 houses. We analyze artifacts, household size, and village layout to document community interaction 2500-2000 BP. The data indicate an initial, slow development of the community, followed by rapid growth ~2200 BP. Most houses fall within a narrow size range, with one or two distinctly larger ones. The artifacts suggest that all households are involved in the same economic tasks, including the domestic production of nephrite celts. These data indicate a cohesive social unit, with perhaps only marginal social and economic differences among households.

Lennon, Thomas [212] see Wheeler, Charles W.

Lentz, David (University of Cincinnati, Biological Sciences) and Sally Woods (University of Cincinnati)

[302] *Agroforestry and Timber Product Use Among the Ancient Maya: Paleoethnobotanical Studies at the Chan Site*

Chan currently is surrounded by a mosaic of farmland and tropical deciduous forest, probably much as it was in Preclassic times. Just 20 km to the south are the pine forests of the Maya Mountains. Analysis of more than 271 samples of macro-remains and flotation extracted plant materials from Chan revealed several patterns of wood use that included the decline of pine during the Classic period, an increase in palm exploitation at the same time and a dramatic increase in hardwood utilization. These and other results will be discussed as a reflection of the prevailing socioeconomic and ecological milieu.

Leon, Xochitl (Universidad Nacional Autónoma de México)

[279] *Enterramientos Prehispánicos en Sur de veracruz*

En esta ponencia se hará un recuento de algunos enterramientos prehispánicos y su contexto arqueológico encontrados en Sur de Veracruz; haciendo un análisis comparativo y tratando de buscar un patrón similar en el área geográfica mencionada se podría llegar a establecer influencias o relaciones culturales.

Leonard, Sarah and Mirjana Roksandic (University of Winnipeg)

[139] *Dental Caries in a Mesolithic Shell Midden: Ideas on Subsistence and Society*

The fragmentary collection from the Mesolithic shell midden of Cova da Onça, Portugal, yielded 195 teeth. Breccia obscured tooth surfaces limiting observation to visual and dental probe inspection. Caries were most prevalent in posterior teeth, with the occlusal surface most commonly affected. Caries prevalence by tooth type is 18.72% which is considerably higher than would be expected for a foraging population, but comparable to Muge Valley samples. Caries prevalence and distribution can be suggestive of subsistence patterns, which are integral to understanding cultural context. No inferences about differential access to resources were drawn since sex and age determinations were impossible.

Lepofsky, Dana (Simon Fraser University), David Schaepe (Sto:lo Research and Resource Management Centre / Dept. of Anthropology University) and Michael Blake (Dept. of Anthropology, University of British Columbia)

[52] *Interaction, Identity, and Fraser Valley Archaeology*

For millennia, the Fraser River and its tributaries has encouraged and enabled intense interaction among communities living along its length. Such intense interaction has resulted in both the formation of distinct identities and of social alliances. Our research over the past decade on ancient settlements of the upper Fraser Valley has provided insights into the nature of this interaction both among and within communities. This poster summarizes some of the background and grand results from this research and provides context for the other posters in the session.

[52] Chair

Lepofsky, Dana [52] see *Lenert, Michael P.*; [52] see *Springer, Chris L. M.*; [52] see *Ritchie, Patrick M.*; [52] see *Charlie, Willie*; [52] see *Brown, Douglas R.*; [52] see *Formosa, Susan B.*; [52] see *Oakes, Nicole*

Lerner, Harry (Université Laval)

[189] *Raw Material Variability and Reduction Trajectories in the Late Archaic of New Mexico*

Use-wear accrual should be viewed as a small-scale form of reduction. Use-wear analysis, therefore, can be approached from a chaines operatoire perspective. Experimental and archaeological analyses by the author have shown that differences in rates of use-related wear accrual attributable to both the use of different raw materials and the working of different contact materials can be quantified in a systematic manner using digital imaging and GIS. This paper reports on the progress of continued research to further refine these methods as a means of clarifying the nature of use-related reduction trajectories. It builds on prior work by adopting both macro- and microscopic approaches to enhance our ability to assess tool function and the nature of use-related reduction processes.

Lestarjette, Daniel E. [169] see *Green, Debra K.*

Letham, Bryn [243] see *Martindale, Andrew R.*

LeTourneau, Philippe

[241] *Geochemistry of Paleoindian and Early Archaic Obsidian Artifacts from Central New Mexico*

The past several years have seen a growing body of geochemical data for obsidian Paleoindian artifacts in New Mexico. Much of my research has focused on Folsom use of obsidian and other toolstone. In this paper I review the results of previous analyses and present new X-Ray Fluorescence (XRF) data for Paleoindian and Early Archaic artifacts from a number of sites in central New Mexico. Indications thus far are that proportional use of the different New Mexico obsidian sources varied over time.

Leventhal, Richard (University of Pennsylvania Museum of Archaeology and Anthropology)

[56] *Collecting the Past: Contemporary Issues of Cultural Property*

The debate about collecting and owning ancient artifacts continues unchecked on the front pages of newspapers worldwide. The history of this debate will be examined. Why do countries want to have their heritage returned? What are the roles of universities and museums within this debate? Prior to the arrival of J. A. Sabloff to Penn, Penn Museum stopped the acquisition of material with a questionable or unknown provenience. Sabloff's tenure at Penn re-enforced this approach. And new relations between universities, museums and host countries will bring new models of research and interaction in the 21st century.

[197] *Discussant*

Leventhal, Richard [195] see *Dornan, Jennifer L.*

Levi Mendes, Gerson (Vanderbilt University)

[31] *Hunter gatherers from Paranapiacaba Mountains, Southeast Brazil*

Archeological research in the Paranapiacaba Highlands of southeast Brazil is discussed in terms of new data related to hunter-gatherer societies associated with the Umbu Brazilian Tradition (8000-900 yr BP). One hundred fourteen new sites were discovered, fortyone of which were excavated. Settlement pattern, C14-based chronological, and other results derived from this research are compared with prior archeological projects in the region, and new interpretations related to the Umbu Tradition of the Middle Holocene of southeast Brazil are provided.

Levine, Abigail (University of California, Los Angeles)

[58] *Competition and Cooperation in the Formative Lake Titicaca Basin: New Insights from Taraco, Peru*

Recent research at Taraco has exposed a sequence of construction periods and land use shifts from at least 1300 BC. Excavation data suggest that Taraco was the major regional center during the late Qaluyu and early Pukara periods. Significant finds include the contemporaneity of Pukara and Qaluyu fineware, and a site-wide burning episode that marks the end of Taraco as an economic center. These data suggest that Taraco was a competitor with the site of Pukara, and that cooperation and competition were defining characteristics of increasing social complexity in the northern Basin during the early Late Formative Period.

[58] *Co-Organizer*

Lewarch, Dennis (Suquamish Tribe)

[60] *Holocene Sea Level and Environmental Change in Central Puget Sound, Washington: Implications for Settlement Pattern Models*

Local sea level curves for Central Puget Sound provide estimates of probable marine shoreline positions throughout the Holocene. The Early and Middle Holocene marine littoral was less extensive and had less environmental diversity than Late Holocene marine shorelines. Changes in climate and vegetation regimes, shoreline position, and seismic activity affected resource distribution and productivity throughout the Holocene. Extant archaeological and environmental data are used to estimate probable settlement types and locations through time. Many Early and Middle Holocene marine littoral settlements were inundated or eroded, and are underrepresented in the archaeological database.

Implications for subsistence-settlement pattern models are discussed.

[60] *see Sterling, Sarah L.*; [122] *see Trudel, Stephanie E.*

Lewis, Brandon [297] *see Dodge, Robyn L.*

Lewis, Cecil (University of Oklahoma) and Lauren Cleland (University of Oklahoma)

[256] *First Contact, The Archaeologist's Role in Ancient DNA Investigations*

Most ancient DNA protocols focus on laboratory methods. The lab-based decontamination protocols are generally only effective on bone and teeth. For other biological samples, reducing contamination during excavation is the strongest approach for minimizing modern genetic contaminants. In 2005, Yang and Watt opened a dialogue for ancient DNA contamination precautions at the excavation level. Currently in review, Lewis and Tung continue this dialogue with proposed standards for human remains. In this paper, we summarize current methods and propose a series of suggestions regarding research design, sample sources, affordable tool kits, excavation procedures, and infield preservation, identification and curation needs.

Li, Chunxiang [223] *see Zhou, Hui*

Li, Feng (Columbia University) and Zhonghe Liang (Institute of Archaeology, Chinese Academy of Social Sciences)

[226] *Explaining Guicheng: Socioeconomic Structure of a Bronze-Age Society in the Multicultural Environment on the South Shore of the Bohai Sea*

Guicheng is a prominent Bronze-Age city situated in the eastern part of the Jiadong peninsula, traditionally known to have been the heartland of the so-called "Dongyi" people, but it has yielded a long series of discoveries of inscribed Western Zhou bronzes. The present paper furnishes a field-report on our joint survey at Guicheng with the Institute of Archaeology (CASS) and Shandong Institute of Archaeology in 2007-2008 and will explore its implications for understanding societies in Bronze-Age China particularly the Shandong region. The paper deals heavily with cultural relations and examines how these relations were played out in the overall political structure of the peninsula in the special historical context marked by the accommodation by the local societies of the advancing Zhou power.

Li, Min

[226] *Prelude to the Bronze Age: Interregional Interactions in Eastern China during the Early Second Millennium B.C.*

Competing theories of indigenous state formation, symbiotic political development, and dramatic collapse in social complexity have been offered on the trajectory of social change in the coastal region of Shandong during the early second millennium B.C. In the broad context of interregional interaction, this paper reviews the paradigm shift, current debates, and revelations from the recent excavations on this transitional period. Emphasis will be placed on major changes in material culture that render visible efforts of social transformations prior to emergent Bronze Age state.

Li, Yongxian [168] see *Taylor, James W.*

Liang, Zhonghe [226] see *Li, Feng*

Liddle, Joe [194] see *Crowell, Aron L.*

Lidén, Kerstin [116] see *Eriksson, Gunilla*

Lightfoot, Kent (University of California), Edward Luby (San Francisco State University) and Lisa Pesnichak (San Francisco State University)

[19] *The Production of Mounded Landscapes by Hunter-Gatherers: A Perspective from San Francisco Bay, California*

There is growing recognition among North American archaeologists that hunter-gatherers produced mounded landscapes. This is particularly true for coastal hunter-gatherers who sometimes produced extensive shell mounds. Most traditional interpretations of these coastal sites privilege explanations grounded on specific kinds of subsistence and refuse dumping practices. More recent studies are now examining various social and political factors that contributed significantly to the regional distribution and spatial layout of mounded sites. This paper examines these issues by presenting a case study from an ongoing study in the greater San Francisco Bay Area.

Ligouis, Bertrand [259] see *Berna, Francesco*

Lillios, Katina (University of Iowa)

[153] *Societies Against the State, or The Failure of the State in Iberian Prehistory*

The debate regarding the emergence of the State has galvanized archaeological research in the Iberian Peninsula. However, this debate also tends to mask the full range of social formations that existed prior to Roman conquest. From the vantage point of western Iberia, specifically Portugal, a spectrum of social formations characterized the Neolithic through the Bronze Age. A diachronic view of settlement patterns, exchange systems, and mortuary complexes in western Iberia suggests that human populations regularly resisted material expressions of power. This paper reviews this evidence and explores some factors that contributed to the failure of the State in Iberian prehistory.

Lillios, Katina [215] see *Waterman, Anna J.*

Lillquist, Karl [128] see *Lubinski, Patrick*

Limp, W (University of Arkansas) [183] Discussant [78] Discussant

Linares, Moises [88] see *Vaughn, Kevin*

Lincoln, Gail (SWCA Environmental Consultants Denver, Colorado)

[285] *Migration and Magdalena Black-on-white: Ceramics at Pinnacle Ruin and Gallinas Springs Ruin*

The ceramic assemblages from Pinnacle Ruin and Gallinas Springs Ruin in southwestern New Mexico contain Magdalena Black-on-white pottery that has been linked to McElmo Black-on-white from the Northern San Juan region. A technological and stylistic study of

Magdalena Black-on-white from both sites suggests that large migrant groups relocated to southwestern New Mexico and produced ceramics that maintained production methods and design styles from the Northern San Juan region.

Lincoln-Babb, Lorrie and Penny Dufoe Minturn (Bioarch, L. L. C.)

[304] *The Bioarchaeological Implications of the Human Remains from the US 60 Project: Late Archaic-Early Agricultural Burials in Central Arizona*

Excavations at Finch Camp (AZ U:11:7 [ASM]) resulted in the recovery of 20 human burials, which in turn represent the largest Cienega and Red Mountain phase skeletal population produced thus far in south-central Arizona. Comparison of mortuary programs and osteological and dental observations with Cienega and Agua Caliente phase populations in the Tucson Basin resulted in the identification of numerous similarities. The frequency of occipital flattening, indicative of cradle-boarding during infancy, between the populations also revealed intriguing temporal patterns. These Late Archaic and Early Agricultural characteristics are presented and discussed—with a focus on subsistence, lifeways, and affiliation.

Lincoln-Babb, Lorrie [20] see Hill, Rebecca J.

Lind, Michael (Santa Ana Unified School) and Catalina Barrientos (Universidad Nacional Autonoma de Mexico)

[138] *The Obverse of the Codex of Cholula: Defining the Settlement System in the Kingdom of Cholula*

The obverse of the Codex of Cholula is a map of the Cholula region drafted between A.D. 1549 and A.D. 1586 and annotated with glosses in Nahuatl. The Codex illustrates the borders and subject communities of the Kingdom of Cholula. The implications of this information for archeological investigations into the definitions of the borders, settlement system, and boundary maintenance within the Kingdom of Cholula are examined.

Lindsay, David (Society for American Archaeology) [103] Moderator [103] Discussant

Lindsay, Ian (Department of Soc/Anth)

[229] *Fuzzy Borders?: Investigating Political Boundary Formation among South Caucasian LBA Fortress Polities*

This paper highlights the results of a recent neutron activation analysis (NAA) of ceramics from elite and non-elite contexts at a selection of Late Bronze Age fortresses on the Tsaghkahovit Plain in northwestern Armenia, and offer some preliminary interpretations about political and economic organization and boundary formation. Most strikingly, the NAA data suggest that the fortresses on the Tsaghkahovit Plain appear to have isolated themselves economically from surrounding valleys, perhaps in an attempt to (a) demarcate sociopolitical territories and (b) establish a political ideology and administrative strategy distinct from the nomadic regimes of the Middle Bronze Age.

Linduff, Katheryn (University of Pittsburgh)

[96] *Beginnings of Metallurgy in Ancient East Asia: Who, When, and Where?*

Metallurgy has been taken as essential to the development of Chinese civilization. Archaeological study has been particularistic and evolutionary, tied to traditional Chinese historiography, and modern Marxist model of social development. Modern studies suggest that it emerged independently in a "core" area and then spread to "peripheral" areas by way of political expansion and cultural diffusion over many millennia, and that metallurgy was also homegrown. New excavations suggest: multiple early centers of production; that the Chinese case belongs to a regional context; that native sources of ores were significant; that metals were used in several pre-state level societies.

Linford, Neil [55] see Welham, Kate M.

Liolios, Despina [269] see Morin, Eugene

Lione, Brian (DoD) [108] Discussant

Lipe, William (Washington State University)

[175] *RG-ology, North and South*

Few archaeologists have been able to make significant research contributions in more than one major culture area, let alone in the larger arena of archaeological method and theory. Yet R.G. Matson, during a research career still far from over, has accomplished just those things. Matson's many achievements are reviewed in a slightly irreverent fashion. And with pictures!

Lipo, Carl (California State University Long Beach), Alexander Bentley (University of Durham) and Mark Madsen (University of Washington)

[261] *Discerning social network patterns of cultural inheritance with archaeological data*

We investigate the effects of social network topology on cultural drift by simulating random copying among individuals situated in a range of modeled interaction networks -- from totally-connected to small-world and random graphs. We compare the effects of these different networks on the lifespan of cultural traits in the population, and the flux of new traits into the population. We use the results to define the classes of social networks that can be inferred just from artifact frequencies.

Lipo, Carl [11] see Madsen, Mark E.; [11] see Daniels, James T.; [11] see Safi, Kristin N.; [11] see Harper, Veronica A; [11] see Hundtoft, Brooke; [11] see Gilstrap, Will

Lippert, Dorothy (National Museum of Natural History)

[132] *Biological Analytical Realities: Bridges to Indigenous Experience*

Multiple lines of evidence are utilized in understanding cultural affiliation for the purposes of repatriating human remains to American Indian tribes. Biological analysis has proven to be useful, but an overemphasis on this technique may obscure the realities of tribal identity as it pertains to cultural affiliation. This poster will consider how morphometric analysis of several individuals described as "Native American" results in a single biological identity even though each is in fact affiliated with a distinct and separate cultural grouping. The study reveals the fallacies of anthropological studies that conflate biology with tribal identity.

[132] *Co-Organizer*

Lippi, Ronald (University of Wisconsin) and Alejandra M. Gudiño (University of Missouri-Columbia)

[37] *Coast and montaña examples of archaeological tourism in Ecuador*

Archaeological tourism is slowly modernizing, expanding and coming of age in Ecuador. A very brief overview of early efforts precedes some discussion of recent developments, particularly on the Ecuadorian coast. The authors then discuss the good, the bad and the ugly of management of some sites in the western montaña northwest of Quito, including work at their site of Palmitopamba, a Yumbo and Inca monumental site in the tropical rainforest. This work is put in the context of Ecuadorian attitudes towards archaeology, the explosion of "ecotourism" and the importance of intangible heritage management.

Listi, Ginesse [91] see Morris, Zoe H

Little, Nicole (Smithsonian Institution), Jon Lohse (Center for Archaeological Studies), Laura Kosakowsky (University of Arizona) and Robert J. Speakman (Smithsonian Institution)

[87] *Chemical Analysis of Mayan Paints by LA-ICP-MS*

In previous research, instrumental neutron activation analysis of Mayan pottery has demonstrated that an increasingly dynamic economy developed among communities in northwest Belize directly following the Middle Classic Hiatus. LA-ICP-MS is used in this study to investigate whether similar patterns are mirrored in paint recipes of ceramic assemblages associated with Blue Creek, Ixno'ha, and surrounding sites.

Littleton, Judith (Anthropology Department)

[291] *Local trajectories? A view from down under*

The study of human remains in Australia was influenced by Europe and then North

America. However, it has retained a distinctive character because of the focus on hunter-gatherers and, more recently, the collaborative nature of research with Aboriginal communities. In the absence of a fine-grained record work has focussed upon broad regional or temporal scales (e.g. comparison of Pleistocene to Holocene). The more recent involvement with local communities has forced an adjustment of these research questions and a much greater need to understand the archaeological record pushing the concerns of Australian physical anthropology closer to archaeology.

Litwinionek, Luc

[30] *Foreign to familiar landscapes. Paleoindian occupations along the glacial front in Marquette County, Michigan*

Recent data from Marquette County, Michigan, suggests rapid occupation of unfamiliar landscapes soon after the retreat of the glacial front. Indeed, analysis of lithic assemblages from archaeological sites located along the Silver Lake Basin indicates that as the glacial front was retreating 10,000 years ago, recently exposed environments were being used in proximity to the glacial edge. As landscapes are viewed as cultural constructions of the world, the use of these foreign landscapes might provide information as to a better understanding of the social fabric of these groups initially settling the Upper Peninsula of Michigan.

Liu, Kun [157] see *Kakoulli, Ioanna*

Liu, Li [170] see *Dong, Yu*; **[22]** see *Lee, Gyoung-Ah*

Liu, Shubai [256] see *Cui, Yingqiu*

Livingood, Patrick (University of Oklahoma)

[21] *No Crows Made Mounds: Do Cost-Distance Calculations of Travel Time Improve Distance-Based Models of the Mississippian?*

This paper will use calculations of travel times between sites derived from GIS data to reanalyze three cases in Mississippian archaeology in which straight-line distance has played a prominent role. There are ethnohistoric and economic reasons to believe that travel-time calculations are a better model for understanding distance. The case studies include: (1) the south Appalachian sites famously studied by David Hally, (2) the fall-off curve of Mill Creek hoe distribution, and (3) data from my own research suggesting minimal spacing between major polities.

Loaiza Diaz, Nicolas [320] see *Aceituno Bocanegra, Francisco Javier*

Locascio, William (University of Pittsburgh)

[87] *Context and Intensity of Craft Production at He-4, Rio Parita Valley, Panama*

This poster presents the results of recently completed excavations of areas identified during an intensive survey of the site of He-4 (Menzies 2006) in the Rio Parita Valley, Panama as likely places of craft production. The intention of these excavations has been to investigate the context and intensity of craft production at He-4 in order to better understand the social and political implications of such activities to regional hierarchies. This research builds upon evidence from a broader scale of investigation, providing a more complete perspective on the processes of social change and the emergence social inequality in the region.

Lockard Reed, Angela (University of Pittsburgh) and Kathleen M. Sydoriak Allen (University of Pittsburgh)

[192] *Variations in Cayuga Subsistence in the Sixteenth Century*

This paper evaluates transformations in western Cayuga dependence on hunting by comparing patterns of resource exploitation between two Cayuga villages dating to the sixteenth century. Faunal assemblages from pit, household, midden, and plowzone contexts from the Parker Farm (ca. 1525-1550 AD) and Carman (ca. 1550-1600 AD) sites are analyzed to illuminate patterns of stability and change in subsistence activities in the upland Cayuga region. Variability in animal exploitation, hunting decisions, and in the

distribution of domestic activities will be explored. How these patterns relate to and were affected by the regional ecological context and other external influences will be discussed.

Lodoen, Trond (University of Bergen)

[186] *Exploring Mesolithic rock art, investigations beneath and beyond carved surfaces*

The paper will discuss the rock art site Vingen in Western Norway and theorize on the distribution of carvings in relation to both natural and cultural features. In addition to the distribution of particular categories of rock art, some focus will be given to the basis for rock art production, the rock it self, whether bedrock or boulders, being much more than a canvas for imagery. These aspects will be evaluated in relation to other categories of rock, from where tools for rock art production have been derived, putting focus on the question; what is rock!

Loendorf, Chris [20] see Rodrigues, Teresa Lee

Loendorf, Lawrence (New Mexico State University)

[71] *Valley of the Shields, Montana, re-visited.*

In 2007, the excavation unit at Valley of the Shields, a rock art site in Montana, was re-opened to remove debris from the original backfill operation and to expand the size of the excavation. We discovered four hearths that were used for processing pigments to make the paintings immediately above them. We also found flake and bone tools associated with the manufacture of the paintings. And we found a slat armor figure adorning one of the shields at ground level. The results of the excavation are discussed in the paper.

Loewen, Alison [37] see Connell, Samuel V.

Loffler, German (WSU)

[188] *The Functions of Lithic Flake Tools: The Lithic Assemblage at the Sunken Village (35MU4) Site as Compared to the Qwu?gwes (45TN240) Site's Lithic Assemblage*

Microwear analysis on flake tools from the Sunken Village Site (35MU4) identifies signature wear characteristics of specific activities on the flake tools – signatures which most closely resemble wear marks left from cutting and scraping activities. At the Sunken Village site, the flake tools were likely used for cutting and scraping activities in production of the wood and fiber artifacts found in association to them – a similar pattern to flake tools recovered from Qwu?gwes (45TN240).

Logan, Amanda (Museum of Anthropology) and Deborah Pearsall (Department of Anthropology, University of Missouri, Columbia)

[244] *Contextual Analysis of Phytoliths on the Taraco Peninsula, Bolivia*

Phytolith and starch grain analyses were employed to study subsistence, trade, and ceremony in Formative contexts. Phytoliths and starch grains allow contextual analysis of different plant parts across archaeological sites and artifacts, providing a more detailed understanding of past human and plant interactions. Microfossils were not useful for tracing Andean subsistence crops like potato and quinoa, but yielded important early evidence for maize in the Titicaca basin. Contextual consideration of maize finds shows that it is isolated in special purpose ceremonial contexts, which has significant implications for understanding the antiquity and nature of public ceremony in the southern Titicaca basin.

Logan, Amanda [244] see Miller, Melanie J

Logan, Melissa

[23] *Defining Complementarity: Gender and Human Imagery in Late Formative West Mexico*

Statistical analysis of ceramic imagery allows for examination of differences in perceived gender relations across areas of differing sociopolitical centralization in Late Formative Jalisco and surrounding regions. Paired figures within elite tombs provide both a multi-gendered context and an indigenous representation of those relationships within a political setting. Compared pan-regionally, biological-sex attribute associations among stylistic variants are used to evaluate gender differences across regions of varying degrees of

centralization. Gender appears not to have been uniform in West Mexico during this time, but rather divided into two distinct areas based on conflicting perceptions of gender complementarity between and within individuals.

Lohse, Jon (Texas State University)

[16] *Toward Understanding Commoners through Wealth Fetishism, Materiality, Labor, and Alienation*

Notions of imitable and inalienable wealth strongly influence how archaeologists understand the internal ordering of societies. Focus on wealth as the materialization of value, coupled with restricted access or displays of specialized skill or knowledge, often approaches a fetishism that actually masks many of the processes through which social identities were crafted, alliances forged, and hierarchies established or defeated.

Centralizing the labor dimension of wealth, alongside materiality, reopens these processes for examination, and leads to a fuller understanding of processes of alienation. Moreover, it brings to light the contributions of both commoners and non-commoners as participants in ongoing social reconstitution.

Lohse, Jon [87] see Little, Nicole C.

Lohse, Jon C. [53] see Collins, Michael B.; **[181]** see Morgan, Molly

Lohse, Skip (Idaho State University) and C. Schou (Idaho State University)

[313] *Why We Do Not Want to Close Morphometric Space in Classifying Artifacts*
Biological models, often applied in normative archaeological classification, assume concordance on nomenclature, complete knowledge, and defined hierarchical relationships that are difficult to defend in practical archaeological research. Fuzzy logic better represents pragmatic archaeological research goals and priorities. Fuzzy truths allow approximations in vaguely defined sets. If we impose accepted classifications on our data we risk failing to refine our analytical systems, and we may not recognize significant variation that requires new models for adequate interpretation. This paper presents an AI system for classifying stone projectile point types that is extensible and learns as new data are added.

Long, Montana (Oregon Department of State Lands)

[278] *Exploring Habitat Preference on Idaho's Snake River Plain: An Ideal Free Distribution Model of Terminal Pleistocene/Early Holocene Land Use*

Human land use decisions on Idaho's Snake River Plain during the terminal Pleistocene/early Holocene are explored using a population ecology model known as the Ideal Free Distribution. Paleoenvironmental data are used to rank three regionally available habitats according to their relative resource richness and predictability. The study area's pluvial lake complex is given primary ranking; river corridors and sagebrush steppe are given secondary and tertiary rankings, respectively. Fluted point distributions, including Owl Cave specimens, indicate that Clovis groups did not tether to pluvial lakes as predicted, instead favoring river corridors, while Folsom/Midland distributions demonstrated no statistical habitat preference.

Long, Rebecca [205] see Blackwell, Bonnie A. B.

Longstaffe, Fred [218] see Metcalfe, Jessica; **[134]** see White, Christine D.; **[274]** see Shaughnessy, Roxane E.; **[180]** see Pereira, Gregory; **[277]** see Spence, Michael W.; **[274]** see Hewitt, Barbara R.

Looper, Matthew (California State Univ-Chico)

[136] *Southeastern Maya zoomorphic sculptures as politico-religious symbols*
Andrea Stone laid the foundation for the interpretation of composite crocodile supernaturals in Maya art as cosmological models. She also pointed to the variation among these images, which suggests distinct iconographic subcategories. In this presentation, I explore the significance of this variation by analyzing specific sculpture programs at Copan and Quirigua. This historical contextualization suggests not only the links between iconography

and elite ceremonies, but also how imagery evolved as a form of politico-religious discourse between two competing polities.

Lopez, Julieta (ENAH-INAH) and Tatsuya Murakami (Arizona State University)

[180] *Greenstone and other Precious-Stone Artifacts found at the Moon Pyramid*
Excavations at the Moon Pyramid have produced a rich dataset of lapidary artifacts manufactured from greenstone, slate, pyrite, and other raw materials. In addition to being exceptional examples of Teotihuacano artisanship, these objects provide important information regarding the symbolism of temple-offering complexes. This paper outlines our identification of raw materials, typological classification of the objects, and the manufacturing techniques that transformed them into finished products, highlighting their cultural value within Teotihuacano society.

Lopez Bejarano, Jose Maria

[237] *Inca Appropriation of Sacred Shrines in the Lake Titicaca Basin: Preliminary Results of an Archaeological Survey of the Copacabana Peninsula, Bolivia*
The economic, political, and ideological motivations for the incorporation of the Lake Titicaca region into the Inca Empire have been the focus of several archaeological studies. The stimulus of ideology is particularly complex since the Inca domination of sacred places such as Pachacamac, Tiwanaku, and Copacabana, also served political ends of legitimizing sovereignty and control over other Andean societies. The Inca materialized their cosmology and mythic history through the appropriation and transformation of these important, pan-Andean sacred places. This paper will discuss the varied ways in which the Inca modified preexisting shrines, and thus re-altered the landscape of the Copacabana Peninsula, Bolivia.

López Luján, Leonardo (Museo del Templo Mayor, INAH) and Saburo Sugiyama (Aichi Prefectural University)

[180] *Burial 6: War, Sacrifice, and Cosmology Reflected in a Dedicatory Burial/Offering Complex at the Moon Pyramid*
Intensive excavations at the Moon Pyramid in 1998-2004 culminated in the discovery of Burial 6, consisting of twelve individuals and numerous predatory animals, most of them bound and sacrificed. The skeletal remains were accompanied by rich offerings following a strict liturgy and calendrical/cosmological patterns to express an ideology of sacred rulership. Our paper describes the content and spatial configuration of this ritual deposit, as well as its architectural and chronological context. We also compare Burial 6 with similar deposits excavated at the Moon Pyramid and discuss the overall significance and sociopolitical implications of Teotihuacano temple-enlargement rituals.

Lopez Mestas, Martha (Instituto Nacional de Antropología e Historia) and Lorenza López Mestas Camberos (Instituto Nacional de Antropología e Historia)

[198] *El trabajo de concha en el centro de Jalisco durante la tradición Teuchitlán*
Poco se ha estudiado la participación de la concha en los procesos de complejización social del Occidente mexicano. Al igual que en otras regiones mesoamericanas, la concha fue un recurso de uso restringido y altamente apreciado por el significado simbólico del que estuvo imbuida. Este trabajo se centrará en el papel desempeñado por los objetos de concha en las redes de poder e intercambio de los grupos del centro de Jalisco durante el Preclásico tardío y el Clásico temprano, para establecer patrones tentativos de producción, distribución, uso y significación ritual en la tradición Teuchitlán.

López Mestas Camberos, Lorenza [198] see Lopez Mestas, Martha

López Varela, Sandra (Universidad Autónoma del Estado de Morelos) and Christopher Dore (Statistical Research Inc.)

[107] *Evaluating Strategies to Protect the Cultural Patrimony of Morelos, Mexico*
Development and planning models for the state of Morelos have exposed public concern for the protection of archaeological and social resources. In 2005, the University of Morelos, together with Statistical Research, joined ADOR, a natural resource consulting firm based in Mexico City to develop land use plans for the municipio of Cuernavaca and

Jiutepec in Morelos. In many countries of the world, some of the highest quality and most innovative archaeology is taking place in the private sector. Here, we discuss how this growth has been of benefit to the state and to its social and cultural patrimony.

Lopez-Forment, Angelica

[59] *"There's a Hare on my Soup" Foodways and Identity on the Mesoamerican Frontier*
Under Kirchhoff's definition of "Mesoamerica," the consumption of maize, beans, and squash and of domesticated animals such as dog and turkey were key elements of Mesoamerican foodways. This paper addresses the question: can foodways be used to evaluate cultural boundaries in the Greater Nicoya region? Primary data will be derived from recent excavations at the Santa Isabel site in Nicaragua, but discussion will include information from related regions.

López-Hurtado, Luis (University of Pittsburgh) and Giancarlo Marcone (University of Pittsburgh)

[37] *Pachacamac: Historia y Política en el manejo de un Santuario Prehispánico*
El papel que juegan los espacios públicos en la construcción de diversas formas de interacción social al interior de una comunidad es un tema que se viene debatiendo en Latinoamérica. En este debate se pone especial atención en como la falta de espacios públicos en comunidades ubicadas en la periferia de grandes centros urbanos determinante gran parte sus dinámicas sociales. En esta presentación desarrollaremos como el sitio arqueológico de Pachacamac, ubicado 20 kilómetros al sur de la ciudad de Lima, presenta un gran potencial para convertirse en un espacio de integración para los pobladores que viven en sus alrededores.

Lopiparo, Jeanne (University of California, Berkeley) [247] Discussant**Lordkipanidze, David [238] see Tappen, Martha; [259] see Ferring, Reid****Losey, Robert (University of Alberta)**

[142] *Late Holocene Fish Traps in the Transforming Landscapes of Willapa Bay, Washington*
Intertidal fish traps are now widely investigated on the Northwest Coast. Most fish trap research focuses on identifying prehistoric traps, and interpretations tend to focus on trap construction and function. In this presentation, I emphasize instead the changing nature of fish trap use during the late prehistoric and early historic periods on Willapa Bay, Washington. Traps are envisioned here as being consciously employed to do more than just catch fish. I argue that the placement of both historic and prehistoric traps relates in part to issues of territory, routes of travel, shifting demographics, and altered settlement patterns.

Losier, Catherine (Université Laval)

[146] *L'Exclusif? : European Colonial Wares From French Guyana (1652-1789)*
During the French Guyanese Old Colonial Regime, the Metropole enforced mercantilism, which designated itself as the exclusive trade partner for the exchange of goods with the colony. However, the historical data show that this mercantile principle was not always complied with in French colonial settlements; in Guyana as well as in the rest of the Caribbean area. The European wares found on several sites of French Guyana allow us to untangle the relative importance of commercial protectionism mandated by the Metropole and the illicit contributions of other European powers in the French Guyanese trade network.

Loubser, Johannes (Stratum Unlimited, LLC)

[258] *Seeing but not seen: ethnographic light on open art and cave art*
Consciousness contracts and rock art placements are explored in three cultures: southern African San gatherer-hunters; Caribbean Taino agriculturalists; and Southeastern Indian agriculturalists. The purpose of this comparison is to throw more light on the rock art of the Southeastern Indians. Rock art motifs in open locations are contrasted with panels in darker recesses in order to show how art in full view differs from art that is hidden.

Louderback, Lisbeth, Bryan Hockett (Elko Bureau of Land Management), David Rhode (Desert Research Institute), Kelly Graf (University of Nevada Reno) and Ted Goebel (Texas A&M University)

[249] *Climate Change and Human Adaptation in the Bonneville Basin: The Blue Lake Pollen Record and Archaeology of Bonneville Estates Rockshelter*

The latest Pleistocene and early Holocene in the Great Basin were periods of significant climate change and landscape evolution. From 11,000-5000 B.P. wetlands expanded and contracted, vegetation compositions and distributions changed, and range shifts and local extinctions in fauna occurred. For humans, these climate-driven environmental changes significantly impacted resource structure and availability. In this paper we present new data of vegetation change obtained from the Blue Lake pollen record, and evidence of human technological, subsistence, and settlement change from Bonneville Estates Rockshelter, to show how climate change ultimately induced evolution of human land use strategies in an increasingly arid environment.

Louderback, Lisbeth A. [57] see Grayson, Donald K.

Loughlin, Michael (University of Kentucky)

[279] *Political Economy and the Formative to Classic Period Transition at El Mesón, Veracruz*

El Mesón emerged as a secondary center to the large EpiOlmecc site Tres Zapotes during the Late Formative period (BC 400-1 AD). Despite the decline of the larger center, growth in the El Mesón area continued into the Early Classic period (1 – 600 AD). In this paper I examine the relationship of economic production and exchange to the political organization of the El Mesón area. Specifically, I consider how the political economy of the area changed with the decline of Tres Zapotes, and whether new opportunities became available that allowed the El Mesón area to prosper into the Classic period.

Love, Michael (Calif State Univ-Northridge)

[155] *Identity, style, and household ritual at La Blanca, Guatemala*

Multiple sources of identity exist in all societies and the choices made by individuals and groups about how to construct identity are fluid and situational. Overlapping categories of style in Middle Preclassic domestic assemblages may reflect the complex practices that went into the construction of identity. People at La Blanca drew upon pan-Mesoamerican symbols, regional styles, local elements, and idiosyncratic forms in the making and use of material culture. Forms of material culture style probably used in household ritual reflect the participation of local people in many different types of group identity, as well as the construction of individual identities.

[283] *Discussant [155] Co-Organizer*

Love, Serena (Stanford Archaeology Center) [276] Chair

Love, Serena [276] see Boz, Basak

Lovis, William (Michigan State University)

[270] *Space, Information and Knowledge: North American Boreal Hunter-Gatherers*

This research is premised on the notion that information is organized data, continually sorted contextually, and applied in a manner that results in decisions. Under this definition all empirical observations warranting retention are not always information. Context, problem value and pertinence change commensurately, varying the relevant information pool. These principles and their archaeological relevance are explored through analysis of ethnographically derived maps from North American boreal forest hunter-gatherers. The analysis draws on geographic principles of ethnogeography to assess the relative primacy and detail of raw spatial data in differing contexts, particularly the regularities of spatial generalization derived from perception.

[270] *Co-Organizer; [303] see Langer, Jessica L.*

Lowry, Justin [5] see *Paling, Jason S.R.*

Lowry, Sarah (University of Denver) and Lawrence Conyers (University of Denver)
[54] *Ground-penetrating radar mapping at Pueblo Bonito, Chaco Canyon, New Mexico*
The cultural origins and regional connections of Chaco Canyon, New Mexico have been debated for decades. Ground-penetrating radar work, tied to recent University of New Mexico excavations at mounds in front of Pueblo Bonito contributes to the debate. These mounds, often referred to as "middens" are hypothesized to be ceremonial platforms dating from the earliest building phase in the canyon. There is also evidence to suggest water control of distribution features related in some way to the mounds.

Lozada, Maria (University of Chicago)

[157] *Mortuary Excavations and Bioarchaeological Research in Northern Chile*
Recent excavations in the cemeteries of Tarapaca-40 and Carora, suggest a continuous occupation by local groups in the valley of Tarapaca from the Formative to the Late Intermediate Period. Over the course of this occupation, differences in burial patterning and accoutrements suggest that local/regional variations occurred among inhabitants of the Tarapaca Valley; however, there is little evidence to support significant Tiwanaku influence. In this paper, we will present the preliminary results of our excavations and will outline bioarchaeological strategies to define the biological and cultural determinants of these differences.

[157] **Chair [291] Co-Organizer**

Lozada, Maria [291] see *Haydon, Rex*

Lozada C., Maria C. [263] see *Blom, Deborah E.*

Luan, Fengshi [24] see *Cunnar, Geoffrey E.*; **[226]** see *Niziolek, Lisa C.*; **[75]** see *Shi, Benheng*

Lubinski, Patrick (Central Washington University), Bax Barton (University of Washington Quaternary Research Center), Jake Shapley (Central Washington University), Karl Lillquist (Central Washington University) and Morris Uebelacker (Central Washington University)

[128] *Three Seasons of Excavation at the Wenatchee Mammoth Site in Central Washington*

Following discovery of a mammoth humerus during construction in 2005, Central Washington University has conducted three interdisciplinary summer field investigations of the locality near Yakima, Washington. These have revealed an accumulation of mammoth and bovid bones dating 13,400-14,000 RCYBP, near the base of a reworked, loess-dominated, colluvial unit with corroborating luminescence sediment dates. Two chipped stone flakes of unknown depositional age were recovered within the same geological unit about 15cm above the bones. Further investigations are planned.

Luby, Edward [19] see *Lightfoot, Kent G.*

Lucci, Michaela [99] see *Coppa, Alfredo*

Lucero, Gustavo [57] see *Cortegoso, Valeria*

Lucero, Lisa (University of Illinois at Urbana-Champaign)

[134] *Violence among Classic Maya Commoners: Reaching the Gods*

In western society, violence is a means to end conflict. This perception influences how we interpret violence in the past. In this paper, I discuss how violence in Classic Maya (c. A.D. 250-850) society was a means to reach the supernatural realm by bringing life to an end to improve conditions for the living. Specifically, I explore violence among Classic Maya commoners, who, like royals, needed to supplicate gods in times of trouble. Evidence for violence is not just found on the body, but in its context, as I illustrate through a comparison of skeletal remains from houses and caves.

Luchsinger, Heidi (East Carolina University)

[118] *Geoarchaeology in Northern Patagonia: Landscape History and Settlement Patterns*
The Middle Río Negro Valley is located on the northern border of Patagonia, Argentina. A recent geoarchaeological investigation reconstructed the landscape history of this valley from the Late Pleistocene and Holocene. The known archaeological record was placed within this landscape context in order to clarify site preservation and human settlement patterns. River channel avulsion and corresponding pool formation within abandoned channels occurred during the Late Holocene and these events had potential impacts on local settlement patterns.

Lugliè, Carlo (Università Di Cagliari Dip. Scienze Archeologiche), François Le Bourdonnec (CNRS-Université Bordeaux-3), Gérard Poupeau (CNRS-Université Bordeaux-3) and Tristan Carter (McMaster University)

[241] *New data on obsidian exploitation, production and exchange in Early Neolithic Sardinia (Italy)*

Four types (SA, SB1, SB2, SC) of Monte Arci (Sardinia, Italy) obsidian were exploited from the Early Neolithic (EN) colonization of the island onward, albeit with variations in their use at the inter-regional and regional level. The mapping of obsidian in primary sources and secondary deposits, combined with a provenance/techno-typological analyses of obsidian artefacts from Sardinian EN sites, allows us to reconstruct procurement strategies, including source/deposits selection criteria and systems of reduction working at the local level. Possible consequences for the circulation of Sardinian obsidians in the northern Tyrrhenian will also be discussed.

Luhman, Hope and Dell Gould (The Louis Berger Group, Inc.)

[311] *Subsistence and Subsidence: Archaic Occupations at the Kingston Armory Site*
Excavations at the Kingston Armory Site revealed a series of occupations dating between 7000 and 3000 BP. Despite relatively shallow burial, small-scale horizontal and vertical provenience units and multiple radiocarbon dates provided the means to isolate the Vergennes, Vosburg, Frost Island, and Orient components. The site offers new insights into technological adaptations and subsistence practices within changing Holocene environments.

Luke, Christina and Christopher H. Roosevelt (Boston University)

[39] *Shifting Places: Early Bronze through Iron Age Settlements in Central Lydia*
From the Early Bronze Age through the Iron Age, the landscapes of central Lydia were focal points for the rise of social complexity and the celebration of ancestral places. EBA groups lived along the edges of the Gygaean Lake and the Hermos River floodplain. The experiences of later Bronze Age groups were set within a network of fortified places located in defensible locations – Kaymakci at the center. By the Iron Age small hamlets and wealthy estates again dotted lakeshores and low hills, while monumental tumuli dominated ridges, celebrating ancestral ties and linking the area to Sardis, the regional capital.
[39] Chair

Luke, Christina [59] see Dennett, Carrie L.; **[39]** see Boulanger, Matthew T.; **[39]** see Roosevelt, Christopher H.

Lukowski, Susan (Indiana University of Pennsylvania)

[192] *Exploring Fish Use by the Monongahela*

The Monongahela, Late Woodland/Late Prehistoric people of southwestern Pennsylvania, were horticulturalists who supplemented their diet with deer and elk. They located their villages on floodplains near rivers or in the nearby upland areas where fish resources might have been abundantly available. However, the fish do not appear to have been a staple food for the Monongahela. Possible contrasts in reliance on fish based on site location as well as the effects of preservation and recovery on assemblages have not been fully explored. Faunal collections from the Ashmore Farm Site and the Johnston Site are providing insight into these topics.

Luna, Gregory (Penn State University)

[158] *Chinampa fields or open lake? Spatial Analyses of Late Aztec period archaeology of Chalco-Xochimilco lakes, Southern Basin of Mexico*

Late Aztec period chinampa production of Lake Chalco and Xochimilco has been credited with feeding the urbanites of Tenochtitlan. Archaeologists and historians have consistently estimated the extent of southern lakebed chinampas to have covered 9000 hectares of lakebed surface with 3000 hectares of canals and open pools comprising the remaining lakebed area. However, cartographic and historic evidence regarding the extent of lakebed chinampas remains inconclusive. This paper presents results of spatial analyses examining the density and distribution of Late Aztec period lakebed sites. Models of extensive chinampa farming or open lakes or a mix of the two are tested.

Lundblad, Steven (University of Hawaii Hilo), Jacob Smith (University of Hawaii at Hilo) and Peter Mills (Univ. of Hawaii at Hilo)

[156] *Understanding Confounding Variables Associated with Non-Destructive EDXRF Analysis of Archaeological Basalt: Examples from Hawai'i*

Non-destructive EDXRF analysis of basalt requires assessment of a number of variables that affect analytical precision and accuracy that are generally not at issue with traditional destructive techniques. We examined a number of geological and archaeological samples to assess the influence these variables exert on our results. Previous studies on basalt and obsidian have demonstrated a profound effect with small samples. We examine the effects of weathering, phenocrysts, vesicularity, and artifact shape on results. In many cases increased uncertainty is offset by being able to run more samples than with destructive methods.

Lundin, Richard [251] see *Brackett, Claudia L.*

Lupo, Karen (Washington State University)

[193] *Resource Intensification or it's Going to be a Long, Cold Winter: Zooarchaeological Measures of Processing Intensity in the Northeastern Great Basin*

Recent applications of evolutionary theory to the zooarchaeological record suggest that the intensification of prey resources is reflected by several measures including a widening of the diet breadth in concert with physical evidence of hunting pressure. Additional evidence is often sought in the form of taphonomic damage indicative processing of intensity, such as an increase in cutmark frequencies or the degree of bone fragmentation. Using case studies from several zooarchaeological assemblages in the northeastern Great Basin spanning the last 1,500 years I investigate how long-term and seasonal variability in resource depletion is manifested by different taphonomic measures of processing intensity.

[193] Co-Organizer

Lurie, Rochelle [305] see *Tolmie, Clare*

Luzzadde-Beach, Sheryl (George Mason University) and Timothy Beach (Georgetown University)

[109] *2006/7 Field Seasons: Modern Water Chemistry and Ancient Soils in Northern Belize*

We present new findings on 11 chemical analyses of 18 regional water samples from northern Belize. These samples extend our previous fifteen years of water and ancient agricultural research 100 km north across much of the region of ancient Maya wetland management. Water quality at upland and lowland sites was significantly different, with complicated regional mixing of water sources, some nearly saturated with calcium and sulfate. Comparing water chemistry with archaeological and soil evidence shows that Maya farmers had to adapt to changing water tables and carefully manage water for different crops from the Preclassic to the present.

Luzzadde-Beach, Sheryl [109] see *Beach, Timothy*

Lv, Hongliang [168] see *Taylor, James W.*

Lycett, Stephen (LCHES)

[29] *Cultural transmission, genetic models, and lithic variability: integrative analytical approaches*

In recent years, there has been increased interest in the use of cultural transmission theory and models drawn from population genetics in order to understand artifactual variability. Here the general principles of cultural transmission theory will briefly be reviewed.

Thereafter, models from population genetic theory will be applied to analytical case studies of Lower Palaeolithic data. It will be argued that using such an approach we may be able to infer whether specific attributes of artifacts such as Acheulean handaxes (e.g., symmetry) vary according to the principles of neutral drift, or are subject to strong selective forces.

Lyle, Robin [89] see Merewether, Jamie**Lyman, R. (University of Missouri Columbia)**

[36] *A History of Paleoecological Research on Sea Otters and Pinnipeds of the Eastern Pacific Rim*

Over the past 70 years zooarchaeological research on sea otters and pinnipeds of the eastern Pacific Rim has tracked zooarchaeological research in land-locked areas. The first studies were performed by zoologists. These and later studies focused on biogeographic anomalies, particularly those evidenced by remains of northern fur seals. Demographic variables were added to assess variation in prehistoric migratory and reproductive behaviors. Investigators have recently examined isotopes and ancient DNA of northern fur seals and sea otters with the intention of strengthening inferences. Morphometry of all taxa and biogeographic implications of non-fur seal taxa remain little explored.

Lyons, Diane (University of Calgary) and Andrea Freeman (Dept of Archaeology, University of Calgary)

[229] *"I'm not evil": pots and the politics of poverty in eastern Tigray*

Presented is an ethnoarchaeological study of pottery production in agrarian communities in eastern Tigray, Ethiopia. In this region, the rural economy is based in ox-plough cereal farming which frequently fails to produce a household's subsistence. Some women choose to make market pottery to bring a little cash into impoverished households. Their choice has consequences: domestic conflict, social stigma, and the burden of extra labour.

Furthermore, clay acquisition is often violently contested by other villagers because of the damage to fragile grazing lands. In this marginal economy, resisting poverty is a process of social negotiation.

Lyons, Natasha (University of Calgary), Matthew Walls (University of Calgary) and Peter Dawson

[145] *Person, Place, Memory, Thing: How Inuit Elders are transforming ancient knowledge to meet the needs of modern life*

Padlimiut Elders from the West Coast of Hudson's Bay, Canada remember the past to serve the present. As mentors of the Nunavut Department of Culture, Language, Elders and Youth, their aim is to serve their people, particularly the rapidly expanding population of Inuit youth. This paper describes a mapping and oral history project that is gathering Elders' knowledge of the people, places, sites, and resources that populated their vast traditional territory. The Elders are actively connecting ancient perceptions and use of this landscape to Inuit values that they are continually evolving to meet the needs of modern Inuit life.

Lyons, Patrick (Arizona State Museum)

[285] *The Kayenta Diaspora and "Salado" Feasting*

A regional-scale reexamination of Roosevelt Red Ware ("Salado polychrome") typology and chronology has revealed patterns suggesting the intensification of feasting among the late prehispanic inhabitants of the southern Southwest. In this paper, newly-recognized varieties of Roosevelt Red Ware are described and anchored in time and space. Key performance characteristics set these groups of vessels apart and support the inference that they were used for serving food to large groups, in public. Kayenta groups in diaspora were responsible for the ceramic component of the Salado phenomenon and increased

suprahousehold commensalism may indicate an attempt to refashion a shared identity.

Ma, Xiaolin (Henan Provincial Institute of Cultural Relics and Archaeology)

[75] *Process of Making Bone Hairpins in the Bronze Age of Central China*

Cattle bones for manufacturing hairpins were recovered from a Western Zhou (1046-771 BC) site of Lijiayao in Sanmenxia, Henan province, central China. This paper examines the process of making hairpins by sorting, measuring and observing the waste materials in an attempt to understand the degree of specialization of craft production in this period.

Ma, Xiaolin [22] see Pechenkina, Ekaterina

Maasch, Kirk [231] see Kelley, Alice R.

Mabry, Jonathan

[273] *The Estero Morua-Lower Rio Sonoya Project*

In the 1930s, scientists first noticed and published comments on the numerous prehistoric shell middens at Estero Morua on the northeastern coast of the Gulf of California in Sonora, Mexico. A series of archaeological surface surveys of the estuary between the 1940s and 1990s led to various assessments of the ages, cultural affiliations, and occupation patterns of these sites. This presentation summarizes new data and interpretations from the first excavations, detailed mapping, and radiocarbon dating of these shell middens by a team from the Arizona-Sonora Desert Museum and the Center for Desert Archaeology.

[273] Co-Organizer

MacCrae, Scott [234] see McCormick, Carmen A.

MacDonald, Brandi Lee (McMaster University), Alice E. Pidurczny (McMaster Nuclear Reactor), Aubrey Cannon (McMaster University) and R.G.V. Hancock (McMaster Nuclear Reactor)

[219] *Ochre Procurement and Distribution on the Central Coast of British Columbia*

The use of ochre has been an important component of Northwest Coast ceremonial activities, and these ceremonial practices were essential in the enactment and maintenance of socio-political relationships. Results from a study of multiple village sites on the central coast of British Columbia reveal insight into patterns of ochre procurement, distribution and use. Instrumental neutron activation analysis is used to determine the geochemical composition of ochre and to characterize different source groups. The results of this analysis contribute to our understanding of the role of ochre among these culture groups, and furthermore provide an archaeological history of its long-term use.

MacDonald, Brandi Lee [215] see Michelaki, Kostaleena

Macdonald, Danielle (University of Toronto)

[303] *Debitage Analysis of 'Uyun al-Hammâm*

The transition from a hunter-gatherer way of life to sedentary food-producing societies was a pivotal shift in human prehistory, affecting social and economic structures. Excavations at the Epipalaeolithic site 'Uyun al-Hammâm, located in northern Jordan, has uncovered a large amount of archaeological material, including several human burials, suggesting this site had place of importance within the Epipalaeolithic landscape. This presentation explores the lithic debitage from 'Uyun al-Hammâm to determine the stages of tool reduction that are represented in the assemblage. Debitage analysis, in conjunction with other site data, contributes to a holistic understanding of the site's function during the Epipalaeolithic.

MacDonald, Douglas (The University of Montana)

[53] *Differential Use of Local Lithic Raw Materials at the Blind Horse Site (Blue Ridge, Va) and Skink Rockshelter (Central West Virginia)*

Lithic raw materials were differentially selected over time due to mobility patterns, material availability and quality at the Skink Rockshelter and Blind Horse Sites. At Skink Rockshelter in the central West Virginia, individuals utilized local Kanawha chert during all periods in the

production of bifacial tools, but preferred the non-local Upper Mercer chert for unifacial tools. At the Blind Horse Site in the Blue Ridge of Virginia, local metavolcanic greenstone was utilized differentially over time, with heaviest use during the Late and Terminal Archaic periods.

MacDonald, George (bill reid foundation) [288] Discussant

MacDonald, Kevin C. [68] see Morgan, David W.

MacDonell, George [125] see Schlanger, Sarah H.

MacEachern, Scott (Sociology/Anthropology, Bowdoin College)

[76] *Authority and power at the DGB sites, northern Cameroon*

The DGB sites of northern Cameroon provide ambiguous messages about power and authority. The restricted distribution and small size of many of these sites would necessitate only minimal access to resources, and the sites probably display features associated with the authority today held by ritual experts who control rainfall. At the same time, the DGB-1/-2 site complex is much larger, and construction was contemporary with first contacts between the region and the Kanuri state to the north. Considerations of political power, especially through contacts with centralised polities, must be kept in mind as we interpret the DGB phenomenon.

Machado, Juliana (Museu Nacional - Universidade Federal do Rio de Janeiro)

[31] *Building Landscapes and Technologies: Ethnoarchaeology in the Mouth of the Amazon River*

Located on the mouth of the Amazon river Caviana Island conforms a landscape mosaic of forest-covered elevated areas and low natural fields. Ethnohistorical documentation and previous archaeological works realized in this area lead to the implementation of an ethnoarchaeological research within the riverine communities of the island. The occupation dynamic in a long term perspective will be addressed in this paper focusing on the processes of continuity and change in the management of the landscape and production and reproduction of technological systems within riverine communities and the indigenous groups that occupied the region in pre-colonial past.

Machicado, Eduardo (Universidad Mayor de San Andres)

[244] *A Proper Death on the Taraco Peninsula, Bolivia*

In this paper I present the results of a comparative study of over a 100 burials excavated on the Taraco Peninsula, Bolivia. The data set includes mortuary contexts encountered by Wendell Bennett in 1932, Alfred Kidder II in 1955, and the Taraco Archaeological Project from 1992-2006. The aim of the study is to address the variability of mortuary practices through time and space in the Taraco Peninsula and provide a new methodological approach to the recording and study of mortuary architecture in the South Central Andes.

Mack, Cheryl (US Forest Service) and John Fagan (Archaeological Investigations Northwest, Inc.)

[225] *Let Sleeping Bears Lie - Archaeology in the Dark Zone of Lava Tube Caves in Southwest Washington*

Cavers in the Mt. Adams area of Washington State have begun pushing the limits of exploration in small, "crawl-type" lava tubes, and in so doing have recovered a total of nine projectile points within the "dark zone" of eight of these caves. In an attempt to determine the function of these artifacts, several types of analyses have been performed, including technological, blood residue, obsidian sourcing, and obsidian hydration. The results of these analyses will be discussed, particularly as they relate to ethnographic accounts of use of lava tubes by native people.

Mackay, Alexander

[205] *Technological change in the Middle Stone Age: a view from South Africa's Western Cape*

This paper explores the nature of changes in stone artefact technology at two rock shelter

sites - Diepkloof and Klein Kliphuis - located in the Western Cape of South Africa. Sequences at these sites include expressions of the Still Bay and Howiesons Poort, as well as older and younger MSA sub-stages. Of particular interest are the transitional aspects of these sequences, which are generally suggestive of occupational continuity and in-situ technological adaptation.

MacKay, Glen (Prince of Wales Northern Heritage Centre) and Thomas Andrews (Prince of Wales Northern Heritage Centre)

[260] *The Artifice of Dene Travel Technologies*

Travel is central to the identities of Athapaskan (Dene) peoples living in the Northwest Territories. In the context of community-based archaeological projects, we have documented the material culture of travel technologies, and, traveling through the landscape with Dene elders, have also gained an understanding of the cultural principles for traveling in a sacred landscape. Drawing on Robin Ridington's distinction between 'artifact' and 'artifice', we discuss the social and cultural dimensions of Dene travel technologies, which, we argue, are important factors for understanding how artifacts were used in the context of a cultural landscape.

MacKay, Glen [275] see Easton, Norman A.; **[260]** see Young, Patricia Bernice

Mackie, Al [256] see Speller, Camilla F.

Mackie, Kjerstin [256] see Speller, Camilla F.

Mackie, Quentin (University of Victoria), Daryl Fedje (Parks Canada Archaeology Services, Victoria), Duncan McLaren (University of Victoria, Department of Anthropology) and Nicole Smith (Camosun College, Victoria)

[275] *Early Holocene technological transitions at the multicomponent Richardson Island archaeological site, Haida Gwaii, B.C.*

The Richardson Island site contains cultural material dating between 9300 and 5000 14CBP (10,500 to 5700 calBP). The earliest component, the Kinggi Complex, includes bifacial/unifacial toolkits, while the latest component, assigned to the Late Moresby Tradition, lacks bifaces entirely but contains abundant microblades. Between these, finely-stratified deposits record the addition of microblade technology around 8750 14CBP (9750 calBP), resulting in several hundred years of a mixed bifacial/microblade component: the Early Moresby Tradition. This transition is examined with reference to typology, raw material, and environmental change, as well as broader spatial and temporal trends across the northern Pacific.

Mackie, Quentin [275] see Fedje, Daryl; **[225]** see McLaren, Duncan S.

MacPhee, Ross [256] see Poinar, Hendrik

Macrae, Scott (Trent University), Adam Pollock, Elizabeth Webb (University of Western Ontario) and Henry Schwarcz (McMaster University)

[234] *Investigations of the Agricultural Terracing Surrounding the Ancient Maya Centre of Minanha, Belize*

Over the past ten years, investigations of the relict agricultural terracing found in the hilly terrain surrounding Minanha have been multi-faceted. While work is on-going and conclusions preliminary, our findings reveal patterns in the spatial and temporal structure of terrace construction and use. The spatial proximity of the densest concentrations of terracing and associated settlement remains to the site core, as well as the coincidence of the rise and fall of Minanha's royal court with the widespread adoption and eventual abandonment of terrace farming, suggests strong linkages between this form of intensive agriculture and the political economy of this city-state.

Macri, Martha (Univ of California Davis)

[79] *Mesoamerican Cosmology and Concepts of Creation*

Although scholars describe Mesoamerican beliefs about creation, it is not certain what

Mesoamerican peoples of 2000 years ago understood by such a term. This paper considers what contemporary Western scholars imply when referring to "creation," and suggests that accounts of mythological events may have had a significance unrelated to Western concepts of a prime-mover who creates the universe from nothing. Many so-called creation stories are metaphorical explanations of natural phenomena, some referring to recurring astronomical occurrences. Data from hieroglyphic texts support the Maya's notion of a cyclical organization of time, reflecting a focus on repeating and predictable cosmic events.

Macri, Martha [261] see Munson, Jessica L.

MacWilliams, A.C. [185] see Roney, John; [34] see Hard, Robert J.

MacWilliams, Arthur (University of Calgary)

[119] *Comparisons of Expedient Flaked Stone Assemblages from Chihuahua, Mexico.* Flaked stone reduction is often dichotomized as either "formal" or "expedient." Expediency refers to reduction of stone for imminent, short-term use without appreciable concern for tool elaboration or conservation of stone. Within this general strategy there remains wide scope for variability in application. Samples from Viejo period and Medio period assemblages collected in central Chihuahua are compared using a standardized analysis to identify intersite consistency and variability. Differences in reduction intensity and tool design exist, reflecting the flexibility of expedient reduction. Possible reasons for observed variability within a backdrop of technological similarity are discussed.

Madden, Gwyn (Grand Valley State University), Cheri Botic (Smithsonian Institution), R. Eric Hollinger (Smithsonian Institution) and Tachi Yokut Tribe Cultural Comm Santa Rosa Rancheria

[7] *Re-Examination of a Cave Burial From Kern County, California* A mummified child was found in 1903 in a cave in Kern County, California and was sent to the Smithsonian Institution. Requested for repatriation, the remains and associated artifacts are being re-examined by Smithsonian and Tachi Yokut Tribe researchers to gain a better understanding of the child's lifecycle. The research suggests the 10-12 year old child died as a result of osteomyelitis and was placed inside baskets for burial in the cave. Based on examination of the artifacts, ethnographic literature, analysis of the physical remains, and oral traditions, a new picture of the life and death of this child is revealed.

Madden, Odile (Museum Conservation Institute, Smithsonian Institution), Jae Anderson (National Museum of the American Indian, Smithsonian Institution), Jessica Johnson (National Museum of the American Indian, Smithsonian Institution) and John Beaver (National Museum of the American Indian, Smithsonian Institution)

[65] *Pesticide testing protocols at the Smithsonian Institution* Curated collections have been treated historically with a range of pesticides to eradicate and prevent infestation by insects, rodents, and other pests. It is now recognized that many of these chemicals are hazardous to human health. It is incumbent on the Smithsonian Institution to identify potentially hazardous collections and communicate whether or not the risk posed is significant. As part of an international collaborative effort, the Smithsonian is developing techniques for detecting pesticides as well as standardizing testing methodologies, instrumental parameters, and reporting strategies across the institution so that risk is evaluated accurately, consistently, and effectively.

Madsen, Mark (University of Washington), Alex Bentley (Durham University) and Carl Lipo (California State University at Long Beach)

[11] *Seriation Methods for Inferring Social Network Structure From Archaeological Data* In this and a companion paper, we investigate the effects of varying social network topology on the distribution of stylistic artifact classes, measured through frequency seriation. We simulate random copying of stylistic traits among individuals situated in a range of interaction networks from fully-connected to small-world and random graphs. We study the simulated populations using standard frequency seriation techniques, and define classes of social networks that can be distinguished by seriation of artifact frequencies.

Madsen, Mark [261] see *Lipo, Carl P.*

Magaloni, Diana [74] see *Falcon, Tatiana*

Magana, Marycruz

[198] *Specialization on the manufacturing of shell artifacts at Chevelon Ruin*

Chevelon is a member of the Homol'ovi Settlement Cluster located 100 km south of the Hopi Mesas, near the town of Winslow, northeastern Arizona and developed between 1290 and 1390/1400. The excavations resulted in the recovery of 1,206 pieces of shell from 21 structures excavated during the 2003 and 2004 field seasons. The assemblage is dominated by freshwater mussel with some marine ornaments. In this report we'll talk about the evidence of manufacture of shell artifacts, the specialization developed in this industry and the analysis of evidence of manufacturing using the electronic microscopy.

Maggard, Greg [292] see *Stackelbeck, Kary L.*

Magne, Martin (Parks Canada)

[175] *Modelling Athapaskan Migrations*

Matson and Magne have recently proposed a model for the timing of the Athapaskan migrations and a method for investigating the archaeological evidence for those movements. What we have not explored very completely are the theoretical implications of how and why the migrations occurred as process. In this paper we borrow from, and modify elements of, recent thinking about colonization, applying theoretical concepts to the particulars of the Athapaskan case. This yields a clearer understanding of how we need to construct future investigations into the routes of the migrations and the signs of their occurrence.

[175] *Chair; [275]* see *Fedje, Daryl*

Magnoni, Aline (Tulane University), Richard Terry (Brigham Young University) and Scott Hutson (University of Kentucky)

[109] *An archaeological study of chemical signatures of ancient Maya domestic activities at Chunchucmil, Yucatán*

In this paper we illustrate the interpretations of chemical analyses of soils and floors conducted at two residential groups at the Classic period Maya site of Chunchucmil, Yucatán. Excavations and chemical sampling of indoor and outdoor areas of a late Early Classic houselot group, Kaab', and a Late-Terminal Classic platform, Xnokol, have revealed a wealth of information on domestic activities and use of space through time. Different lines of evidence were used to reconstruct activity areas at these two groups: extractable phosphorus, trace elements (ICP-AES), phosphate fractionation, and carbonate analyses in combination with the study of artifacts and spatial contexts.

Mahan, Shannon [308] see *Hauser, Neil*

Mahar, Giessa (American Museum of Natural History)

[114] *Bells of Rebellion: New Evidence from Santa Catalina de Guale (Georgia)*

Bells of Rebellion: New Evidence from Santa Catalina de Guale (Georgia) In 1982, the American Museum of Natural History discovered the long-lost archaeological site of Mission Santa Catalina de Guale (ca 1590-1680), located on St. Catherines Island, GA. For the next fifteen years, the AMNH excavated at Mission Santa Catalina - this paper discusses the on-going analysis of more than 150 church bell fragments recovered there. Mission bells were the symbolic cornerstone of Spanish control over native populations in the Americas. It is our belief that many of the bell fragments recovered at Mission Santa Catalina are a result of the Guale Uprising of 1597 during which it is theorized the first occupation of the mission was destroyed. To test our theory we combined the spatial analysis of the fragments recovered within the mission complex with elemental data gathered using portable x-ray fluorescence spectroscopy. A comparative collection of mission bell fragments from the American Southwest was also analyzed in this study.

Maher, Lisa (Leverhulme Centre for Human Evolutionary Studies)

[303] *Tracing Traditions through Time: New Insights into the Epipalaeolithic of the Southern Levant*

Current explanations for the origins of sedentism and social complexity in the Near East focus on the sudden appearance of villages, architecture, intensified plant and animal use, a flourishing of art and elaborate personal decoration, and mortuary traditions including burial of the dead in formal cemeteries during the Early Natufian. Climatic and other conditions provide the impetuses and the resulting societal shifts are often considered necessary pre-cursors for farming and village life. But, do these pre-conditions really occur suddenly in the Natufian? New and old data from sites Jordan now forces us to re-examine these old paradigms, particularly the evidence for sedentism, technological change, and mortuary practices, and demonstrates a deeper time depth for many of the features thought to emerge abruptly during the Natufian.

Makarewicz, Cheryl

[86] *Complex Animal Husbandry Systems in Built Village Environments: New Zooarchaeological Analyses from Late PPNB el-Hemneh and 'Ain Jammam*

Much zooarchaeological research in the southern Levant has focused on identifying animal domestication processes for multiple animal taxa during the Middle PPNB, but little attention has been paid to animal exploitation practices employed by prehistoric herders during the Late PPNB. Through zooarchaeological analyses of fauna from the Late PPNB villages of el-Hemneh and 'Ain Jammam, as well as a re-examination of faunal data previously recovered from additional contemporary sites, this paper presents a new picture of Late PPNB animal exploitation practices and suggests Late PPNB herders employed an array of complex animal husbandry systems that varied on an inter-village level.

Makarewicz, Cheryl [168] see Hinman, Miriam R.

Maki, David [190] see Olsen, Sandra L.

Makowski, Krzysztof and Marco Goldhausen (Freie Universität Berlin and Pontificia Universidad Católica del Perú)

[73] *The end of the Early Horizon and the Coast-Highland relationship in the Central Coast of Peru*

The comparison of the results gained by the Archaeological Projects "Lomas de Lurín" (since 1991) and "Orcón-Pacaybamba" (since 2003), directed by Makowski and Goldhausen in the Lurin and Chancay River Valleys respectively, serves as point of departure to model new interpretative scenarios for the crucial period of transition from the Early Horizon to the Early Intermediate Period after the fall of the Chavín-Style at the central coast of Peru. In our research area, as well as in the Casma valley and in the highland of Cajamarca, this period marks a break in the former technological and cultural traditions. Increased mobility between the coast and the highland along the Peruvian littoral seems to play an influential role in the reorganization of the social and political relationships.

Malcom, Corey (MFMHS)

[63] *The Wreck of the Slave Ship Peter Mowell*

The Wreck of the Slave Ship Peter Mowell In July of 1860, the American schooner Peter Mowell wrecked in the Bahamas attempting to carry 400 African people to slavery. Wreckers rescued the crew and almost all of the Africans and carried them to Nassau. The crew was released, but the Africans were made indentured servants. Eventually, they were incorporated into the general population of the Bahamas. Historical evidence shows that the shipwreck occurred along the shore of Lynyard Cay in the northeastern Bahamas. Bahamian and American archaeologists are beginning the search for what might remain of this important shipwreck.

Maldonado, Antonio [292] see Carre, Matthieu

Maldonado, Blanca (Colegio De Michoacan, Mexico)

[272] *Exploring the Possibility for the Use of Wind Power for Copper Smelting in Mesoamerica*

By the early sixteenth century, a sophisticated non-ferrous metallurgy had been developed in Mesoamerica. Little is known, however, about the smelting technology involved in this production. Although at present no hard evidence is available for the use of wind power for metals smelting, archaeological and archaeometallurgical finds at a number of west Mexican locations suggest that prehispanic metallurgists had knowledge of a copper smelting method which involved some form of natural draft. The present paper explores the potential for the use of wind power in Mesoamerican contexts.

[121] *Discussant*

Maldonado, Doris (Dept. Anthropology), Rosemary Joyce (UC Berkeley) and Russell Sheptak (UC Berkeley)

[59] *Boundaries and Identities: Archaeology in Northern Honduras*

Honduras is identified as the location of the southern frontier of Mesoamerica. Earlier archaeologists identified the boundary of Mesoamerica as the Ulua River. Contingent on being Mesoamerican, sites were identified as Maya or non-Maya. What was east of the boundary was unidentified. East were the cultures of the intermediate area that makeup the proposed Macrochibchan culture area. Alternatively, we could think in terms of social relations forming networks at short and long distances between groups of people without categorizing them. In this paper we consider this alternative examining relations between the Ulua Valley, Nicaragua and Costa Rica.

Malhi, Ripan (University of Illinois Urbana-Champaign), Brian Kemp (Department of Anthropology, Washington State University), Jerome Cybulski (Canadian Museum of Civilization) and Raul Tito (Department of Anthropology, University of Illinois)

[223] *Ancient DNA Studies with British Columbia First Nations*

The Kennewick Man controversy has left a legacy of skepticism and uncertainty about the benefits of ancient DNA research in the Americas. To help ameliorate this legacy we have engaged in dialogue and collaboration with First Nation communities in interior and coastal British Columbia. We have successfully sequenced samples ranging from 5000 to 640 yBP and have interpreted the results in ways interesting and useful to both researchers and community members. Here we outline our journey, specific results and implications, and future directions in the spirit of cooperation.

Malischke, LisaMarie and Michael Nassaney (Anthropology Department, Western Michigan University)

[68] *The French Experience in Southwest Michigan: Material Dimensions of Syncretism at Fort St. Joseph, a Mission-Garrison-Trading Post Complex at the Edge of Empire*

Fort St. Joseph (1691- 1781) was one of the earliest permanent settlements in the western Great Lakes region. A variety of French, French-Canadian, Native and Metis people occupied the fort. Although the early French settlers brought new traditions and material culture from their places of origin, the circumstances of the frontier required them to adapt their use of old resources and develop new ones. In this paper we discuss the material dimensions of syncretism and argue that French and Native identities were in flux in the process of ethnogenesis.

Mallol, Carolina (CNRS UMR 6636 (ESEP)), Bence Viola (Department of Anthropology, University Vienna) and Philip Nigst (Max Planck Institute for Evolutionary Anthropology, Leipzig)

[259] *Geoarchaeological news from Willendorf II*

New excavations have been performed in the site of Willendorf II, Austria, to clarify the age of the early Aurignacian and to provide a clear understanding of the human activities that were carried out at the site. Soil Micromorphology was applied to obtain information about site formation and paleoenvironmental conditions. The stratigraphic sequence represents a succession of loess layers that were deposited throughout the Interpleniglacial and the beginning of the Upper Pleniglacial. The archaeological assemblages are concentrated in thin, dark gray horizons. Results show evidence for the presence of grasslands, cold,

humid conditions, and remains of anthropogenic fire activity.

Mallye, Jean-Baptiste [91] see Niven, Laura

Malpass, Michael (Ithaca College)

[231] *Who Are Those Guys? Early Holocene Occupations Of The Dry Quebradas East Of Camana*

Survey of the quebradas east of Camana suggests that the entire region was sparsely populated during the Early and Middle Holocene. Sites are small scatters of lithics and marine shells, located from the sea cliffs above the Pacific to around 1000 masl. The projectile point styles span the entire time period, and the other lithics are largely expedient tools. Taken together, the evidence argues for a single group who occasionally used the region both for its lomas and its coastal resources. Whether this was the same group who occupied Jaguay or another from elsewhere is a topic for discussion.

Mancinelli, Domenico [99] see Coppa, Alfredo

Mandel, Rolfe (Kansas Geological Survey)

[259] *Physical and Geochemical Properties Soils Representing Buried Paleoindian Landscapes in Stream Valleys of the Central Great Plains, USA*

Deeply buried cumulic soils representing Paleoindian landscapes have been recorded in the valley fills of draws and high-order streams in the Central Great Plains. With cumulic soils, pedogenesis and sedimentation occur simultaneously because the rate of sedimentation is very slow. The physical properties of cumulic soils containing Paleoindian cultural deposits were determined through field methods and micromorphological analyses. Also, geochemical properties of the soils, including stable carbon isotope ratios, were determined. The findings are important to the interpretation of site formation processes and reconstruction of vegetation and climate.

[259] *Chair*

Manhein, Mary [91] see Morris, Zoe H

Manne, Tiina (University of Arizona) and Nuno Bicho (Faculdade de Ciencias Humanas e Sociais, Universidade do Algarve)

[69] *Vale Boi: Rendering new understandings of resource intensification, diversification, and specialization in southwestern Iberia*

The coastal archaeological site of Vale Boi is unique to southern Portugal for both its detailed faunal assemblage and its representation of cultural periods (Gravettian, Solutrean and Magdalenian). Labor-intensive bone grease rendering of red deer and horse is already present at the site by the Gravettian (25, 000 BP). In addition to the exploitation of large ungulates, rabbits and marine shellfish were also being utilized at this time. This early date for grease rendering is unique in the Mediterranean and indeed for most of Europe, as is the coupling of bone grease rendering of large prey with heavy rabbit exploitation.

Mannino, Marcello (Institute of Archaeology, University College London) and Michael P. Richards (Max Planck Institute for Evolutionary Anthropology)

[116] *Isotopic evidence for human diets in coastal Mediterranean environments in the early to mid-Holocene*

Coastal resource exploitation in the Mediterranean intensified in the latter stages of the Upper Palaeolithic and in the Mesolithic. Isotope analyses on human bones and on marine molluscs have been undertaken to estimate, respectively, the contribution of marine resources to human diets and to verify the seasonality of shellfish exploitation. The results of these analyses on bones and shells from key sites show that no more than 25% of human dietary protein came from marine resources and that changes in the periodicity of shellfish exploitation occurred through the Holocene prior to, and after, the adoption of an agro-pastoral economy.

Manson, Joni (Heritage Education & Research Services) and David Snyder

[207] *Methodological Improvements in Measuring Thermal Diffusivity in Prehistoric Pottery*
Testing of Early Woodland and Fort Ancient potsherds from three Ohio sites has revealed significant variation in thermal diffusivity, a measure of the rate at which heat is transferred through a vessel's walls. Such measurements are useful in studying changes in the heating effectiveness of prehistoric pottery, which may reflect dietary changes associated with a greater reliance on starchy plant cultigens. Recent tests on pottery from additional sites have focused on refining the methods employed to measure thermal diffusion rates, decreasing the time per sample requirements and examining the replicability of the experimental results.

Manzanilla, Linda (U Nacional Autonoma de Mexico)

[14] *Neighborhoods and Elite Houses at Teotihuacan*

Teotihuacan, a huge multiethnic metropolis of the Classic period of central Mexico, may be the best example of a corporate strategy. The absence of visual and textual references to dynasts, may imply the existence of co-rulers that may come from the main elite houses of the neighborhoods. The neighborhood (housing intermediate elites) is the most important unit of spatial analysis in multiethnic cities. This paper will review current data from one possible neighborhood center- Teopancazco- in southeastern Teotihuacan, where the main components -the ritual, administrative, residential and specialized craft producing- will be described.

Marceau, Thomas (Washington Closure Hanford)

[295] *Analysis of a Freshwater Mussel Shell Midden from the Hanford Site, Washington*

During monitoring of remedial action a concentration of freshwater mussel shell was discovered within a natural depression containing waste site 128-B-3. Mitigation was directed at answering questions relating to midden structure/function, age, subsistence, and settlement. 45BN1422 represents a discrete activity area (dating between 2860 and 2450 BP) marked by three inter-related features associated with freshwater shell processing. The features are closely aligned in space and contain a limited tool assemblage. Other activities that may have been conducted further away from the excavated features or within the natural depression containing the site remain unknown.

Marciniak, Arkadiusz (Institute of Prehistory, University of Poznan), Arkadiusz Marciniak (University of Poznañ) and Lech Czerniak (University of Gdańsk)

[276] *Upper levels at Çatalhöyük East. The demise of the Neolithic community*

The end of Late Neolithic in Central Anatolia brought about considerable transformations in many domains of local communities. The paper intends to contextualize their nature at Çatalhöyük East based upon results of recent excavations of Levels III-I in the TP (Team Poznan) Area. In particular, we intend to focus upon changes in architecture, space organization of the house, burial practices as well as lithics and pottery manufacture. They are to be seen as a localized transformation and modification of the constituent principles and rules in all these domains indicative of earlier 'classical' Çatalhöyük community.

Marciniak, Arkadiusz [276] see **Marciniak, Arkadiusz**

Marcone, Giancarlo (University of Pittsburgh)

[147] *Lima and Wari Interaction; The Peruvian Central Coast at the Beginning of the Middle Horizon*

In 1988 Ruth Shady published a provocative article where she claims that archaeological interpretations of the Middle Horizon were biased by the application of imperialistic models. For her, these models made the local processes just reactive and obscured further understanding. Shady's claims are similar to current criticism of imperialistic models like "assimilation" or "core-periphery". Through a brief discussion of why Shady fails to provide an alternative hypothesis, I will explore why our image of the central coast at the middle horizon remains dominated by these imperialistic models. We propose that the archaeological evidence on the central coast demonstrates a limited presence of Wari. These presences correspond with what some archaeologists identified as "emulation-models." Finally we propose the need for research concentrated at the village level to better

understanding the meaning of this “emulation” for the local socio-political process.

Marcone, Giancarlo [37] see López-Hurtado, Luis E.

Marden, Kerriann (Tulane University)

[211] *When is a Small House Not a Small House? Reinterpretation of a cannibalized charnel deposit from Chaco Canyon based on archival information*

One of the most notable assemblages of human skeletal remains from Chaco Canyon comprises a commingled charnel deposit attributed to cannibal activity, described as exhibiting perimortem breakage, anvil abrasion, cutmarks and burning. These remains were reportedly found in a subfloor pit of a Late Pueblo I small house structure and have been dated to A.D. 900. However, recent archival research provides information that pushes back the date of deposition to Early Pueblo I. This paper describes the accurate provenience of the charnel deposit and explores the implications of this new information in relation to previous interpretations of these remains.

Marean, Curtis (Arizona State University)

[149] *The life history of Pinnacle Point Cave 13B (Mossel Bay, South Africa): Setting the context for human occupation*

Stone Age archaeologists typically rely on cave and rockshelter sequences to establish long baseline records of behavioral and technological change. However, caves have their own life histories that can shape the timing and nature of anthropogenic input, even excluding humans from occupation. With a little extra work, archaeologists can reconstruct this life history and use it profitably in a variety of ways. Here we illustrate that with the long life history of Cave 13B that has sedimentary input from MIS11 through MIS3.

[238] *Discussant*

Marean, Curtis W [149] see Jerardino, Antonieta M.; [149] see Thompson, Erin N.

Margaris, Amy (Oberlin College)

[250] *The Organization of Protohistoric Alutiiq Osseous Technologies*

Theoretical insights into the organization of forager technologies can be gained by looking beyond lithic resources to raw materials whose innate properties call for the use of a different set of optimizing tool design and conservation strategies by tool makers and users. Protohistoric hunting and fishing implements designed by savvy Alutiiq engineers in Alaska reflect a keen awareness of the constraints posed by a variety of skeletal tool media, including marine mammal bone, based on the inherent qualities of the materials and their intended uses. Design features of harpoons and other osseous tool components will be discussed.

Margomenou, Despina (Georgia State University)

[309] *Store, Save, Accumulate, Keep and Remember: Exploring the Many Dimensions of Food Storage in Late Bronze Age Northern Greece*

The paper focuses on food storage; a neglected topic in archaeological research. Storage is considered still within frameworks that stress the determining role of “subsistence needs”, and is viewed as material evidence for inequality (via surplus). I propose that storage needs to be considered within a framework that stresses social interaction, historicity, and agency. I consider old and new pertinent evidence from LBA Northern Greece. It becomes possible to identify multiple dimensions of storage and to explore how these might have been implicated in the complex power relations within and among local communities at the end of the Bronze Age.

Marin Arroyo, Ana (UNIVERSIDAD DEL PAIS VASCO)

[69] *Economic Adaptations During The Late Glacial In Northern Spain. An Empirical Approach*

Due to its favourable climate and biological heterogeneity, the Cantabrian Coast of northern Spain is well suited for investigations of human economic change during the Tardiglacial. Hunting shifted from specialized procurement of high-ranked prey to more diversified resource exploitation during the Pleistocene-Holocene transition. To study this

phenomenon in detail a mathematical model has been created, which suggests that a demographic increase rather than an environmental shift was responsible for subsistence change. The model simulates ungulate population dynamics, environmental and demographic stochasticity, the effects of topography and human foraging behaviour.

Markens, Robert [32] see *Winter, Marcus*

Markey, Nola (Simon Fraser University & Golder Associates)

[18] *Building Heritage Consciousness: Cultural Resource Managers, the Public, and Aboriginal Communities in British Columbia*

Aboriginal communities wishing to preserve and control their cultural heritage face considerable challenges. Such challenges include implementation of heritage protection policies, capacity building, consultation, heritage research education, and the resolution of land claims. Furthermore, the Canadian public remains unaware of the importance of preserving heritage. Cultural resource managers are in an advantageous position to inform public education, consult with Aboriginal Communities, and contribute to capacity building, yet there appears to be an absence of their participation in the resolution of these important matters. I explore issues fundamental to developing a public consciousness towards the protection of ancient cultural heritage.

Markovics, Michelle (Department of Anthropology) and Andrea White (Florida Bureau of Archaeological Research)

[51] *The Apalachee and the Spanish: Investigations and Public Outreach at an Early Contact Site in Florida*

During the winter of 1539-40, the expedition of Hernando de Soto occupied the Apalachee village Anhaica located near Tallahassee, Florida. The site has proven to be one of the earliest Spanish sites in North America and the only site definitively associated with the de Soto expedition. Florida's citizens played a crucial role in placing the site in state ownership, and public outreach was seen as an important aspect of the project. This poster summarizes results of the 2007 field season, discusses implications of early European contact among native cultures, and the role public outreach plays in educating the general public.

Marler, Ben (Idaho State University), Gregory G. Green (Idaho State University) and Herbert D. G. Maschner (Idaho State University)

[11] *Is Costly Signaling Costly?*

Previous studies have argued that signaling is costly because one never sees returns consummate with the expense of the signal. On average, this may be the case. But for those for whom the signal works, the costs may be less than the return on investment. Using game theory, we model the effects of costly signaling on those individuals who have a substantial return on their investment. Using the organizers of successful feasts and wars as examples, we show that the overall costs of signaling may be much smaller than the long-term return for the individual and his kin group.

Marom, Nimrod

[69] *Wild Game Exploitation Patterns Around the Sea of Galilee, Northern Israel, at the Pleistocene – Holocene Boundary*

The past decade has seen growing interest in the application of diversity analyses to archaeofauna assemblages from the Middle Palaeolithic to the Natufian as a measure of diachronic changes in human niche breadth. Changes in species abundance data from six early Epipalaeolithic (ca. 20 kya) to late Neolithic (6 kya) sites in the Sea of Galilee region (northern Israel) are used to discuss diachronic patterns of wild game exploitation at the Pleistocene – Holocene boundary. Special note is given to the change in ungulate abundance patterns at the transition from hunter-gatherers to hunters-farmers, which may indicate changes in human niche exploitation.

Marquardt, Amy, Edward Vicienzi (Smithsonian Institution), Richard Ash (University of Maryland) and Timothy McCoy (Smithsonian Institution)

[50] *The Source of Hopewell Extraterrestrial Metal and Its Anthropological Implications*
Electron and laser probe microchemical analyses were performed on Hopewell meteoritic iron necklace beads from Havana, Illinois and their suggested source, an iron meteorite found near Anoka, Minnesota, to evaluate the Havana-Anoka provenance relationship. Laboratory and experimental simulations were performed to discern manufacturing techniques. Results show significant microchemical similarities between the Havana bead and Anoka iron. Manufacturing simulations indicate the iron was cold-worked followed by heating. The Anoka iron was likely traded by local people to a region knowledgeable in metal working technology where the iron was made into beads and finally traded to Havana as a finished good.

Marquardt, William (Florida Museum of Natural Hist)

[148] *A Historical Ecology of the Calusa of Southwest Florida*

Our work is guided by historical ecology, the interdisciplinary, empirical, and holistic study of human societies in their dynamic environmental contexts. Environmental archaeological findings demonstrate that longer-term (100-300 year) sea-level fluctuations and shorter-term storm episodes (e.g., hurricanes) stimulated specific socio-cultural responses. Competing models emphasize only one "sea-level transgression," ca. 750 B.C., which led to population growth and ultimately a complex Calusa chiefdom. Adopting a more nuanced approach, I assert that multiple climatic fluctuations helped stimulate an episodic, punctuated cultural trajectory, and that some of the trappings of complexity observed historically (hierarchy, tribute, warfare) were late responses to European influences.

Marquez-Grant, Nicholas [286] see Fuller, Benjamin T**Marquez-Morfin, Lourdes (INAH Mexico) and Rebecca Storey (University of Houston)**

[14] *Teotihuacan Barrios and the Health of Residents: The Risks of Pre-Industrial Urban Living*

Urban life in pre-Hispanic Mesoamerica could be risky for the health of those in large cities. As was true for pre-industrial cities in Europe, it should be possible to determine if health within Teotihuacan might have varied by socioeconomic status, as the city did have marked stratification. We will compare the health status of skeletons of two different neighborhoods: Tlajinga 33, a lower-status residence, and La Ventilla, which has three different status differences among individuals because of labor demands, lifestyle, and nutrition. Major environmental urban problems were pollution and infection.

Marsden, Susan (Museum of Northern BC) [288] Discussant**Marsh, Erik (University of California, Santa Barbara)**

[232] *The Role of Late Formative Households in the Rise of Tiwanaku*

South of Late Titicaca during the Late Formative, growing populations began constructing ceremonial centers on a regional scale. A clearer picture of daily life in the region figures prominently in a more robust understanding of the fundamental elements of the cultures of the Late Formative, and the degree to which these patterns persisted in the foundation of complexity at Tiwanaku. This talk brings together data from recent excavations at Khonko Wankane, Bolivia, and other domestic contexts from the Late Formative toward a regional perspective on the dramatic social reorganization in the centuries that preceded the rise of Tiwanaku.

Marsh, Erik [298] see Garrison, Amanda E.**Marshall, Fiona (Washington University) and Diane Gifford-Gonzalez (University of California, Santa Cruz)**

[190] *Mobility, Domestication and African Pastoral Trajectories*

Pastoralists were the earliest food-producers in north-eastern Africa. Genetic data suggest African herders domesticated African auroch and Nubian and Somali wild ass. Early herders were mobile and subsistence-oriented. Ritualization of cattle, seen in rock-art and

cattle burials, is also a prominent feature of African pastoralism. The social and political world of African pastoralists was oriented to interactions with complex, but not hierarchical, pastoral and hunter-gatherer communities. Mid-Holocene aridity led to heightened mobility and migration. Contrast with Andean and many Asian pastoralists include less specialization in vertical pastoralism or trade, and social landscape without high density agricultural settlement or urban centers.

[190] *Co-Organizer*

Marshall, Fiona [223] see Kimura, Birgitta K.

Marshall, Maureen (University of Chicago) and Alan Greene (University of Chicago)

[176] *Catacomb Queries: The Social Dynamics of Late Bronze Age Burial Practices, Artik, Armenia*

The Late Bronze Age (LBA) archaeology of the South Caucasus has been dominated since the 19th century by the excavation and analysis of burial data. Traditional interpretations have used burial materials to trace chronological and periodizational distinctions, largely disregarding the potential for burial practices to shed light on social dynamics. Particularly representative of this analytical model are the 640 catacomb tombs excavated in the Artik tuff quarries in the late 1970s. Drawing on statistical associations between individuals, objects, and burial construction methods, we examine how the social relationships of the living may be expressed in the Artik mortuary materials.

Martelle, Holly (Timmins Martelle Heritage Consultants Inc.)

[300] *Ethical Issues in First Nations Consultation and Burial Negotiations Within a Cultural Resource Management Context: A View from Southwestern Ontario*

This paper considers ethical dilemmas regarding First Nations consultation and burial negotiations within the poorly regulated CRM sector in Ontario, Canada. Here, First Nations are becoming increasingly involved in archaeological and environmental assessments yet their participation is not regulated by government or formal protocols regarding notification, monitoring or artifact curation. The case of the Dorchester Iroquoian village, involving violations of both the Cemeteries Act and Heritage Act, demonstrates the difficult ethical position of archaeologists working in a context that does little to encourage First Nations involvement.

Marti Oliver, Bernat [153] see McClure, Sarah B.

Martin, Debra (University of Nevada Las Vegas)

[20] *Patterns of Non-Lethal Head Wounds in the Greater Southwest (AD 900-1350)*

A survey of healed cranial depression fractures from Ancestral Pueblo groups across time and space revealed information on the patterning (placement, size, shape, severity) of head wounds by age and sex. These data provided two distinct avenues of questioning; (1) What were the victim's long-term behavioral sequelae based on the relationship between point of impact and traumatic brain injury? (2) Does the patterning infer information on the perpetrators of this kind of non-lethal violence? Results suggest that individuals with head wounds had high recidivism rates (they were attacked repeatedly and suffered from neurological disorders). Head wounds across time are highly varied, but patterning within regions suggest institutionalized violence.

Martin, Debra [134] see Buikstra, Jane E.; [134] see Nelson, Ben A.

Martin, Fabiana Maria [270] see Borrero, Luis A.

Martin, Patrick [30] see Scarlett, Timothy James

Martin, Steve

[28] *Paleoethnobotany in Iceland*

The Norse of Iceland practiced an agrarian economy in which plants provided fuel, building materials, and food for people and livestock. Recent macrobotanical analyses conducted at a number of archaeological sites in western Iceland, including Mosfell, offer vital

information concerning the nature of this agrarian economy and its connection with Europe.

Martin, Susan [30] see *Scarlett, Timothy James*

Martin, Terrance J. [91] see *Bocinsky, R Kyle*

Martindale, Andrew (University of British Columbia) and Bryn Letham (University of British Columbia)

[243] *Subsurface Mapping of Shell Midden Components through Percussion Coring: Examples from the Dundas Islands*

Percussion coring has been successfully employed in shell midden analysis as a means of extracting samples for radiometric assaying. It has been especially useful in quickly locating samples from basal deposits that represent initial occupational components from deep shell bearing sites. Following earlier examples of mapping subsurface components using augering, we employ percussion coring to map basal deposits, paleosols and transitions between two distinct cultural components (a small midden and a large village) in order to examine the developmental sequence of a shell bearing site with Early to Late Holocene dates (7500 - 2500 BP) on the northern Northwest Coast.

[268] *Discussant*

Martinez, Antoinette [202] see *Beasley, Melanie M.*

Martinez, Desiree (Harvard University) and Bridgette Whipple (Confederated Tribes of the Warm Springs Reservation)

[1] *Removing Hindrances to Collaboration: Acknowledging and Participating in Native American Communication Patterns*

Effective and efficient collaboration between Native American representatives and cultural resource managers and archaeologists is hindered by communication problems. Using data from observation of Wana Pa Koot Koot and Payos Kuus C'uukwe', two cooperative groups with representatives from various Columbia River tribes in the Pacific Northwest, this presentation will provide ways to limit miscommunication during collaboration. Chances for successful collaboration increase when Native American communication patterns are recognized, understood, and responded to in an appropriate manner.

Martinez, Gustavo

[101] *Late Holocene Forager adaptations to an arid Pampean-Patagonian transitional region of Argentina*

The Colorado River lower basin is an arid-semi-arid region crossed by an important alocrone watercourse and it is an ecotone defined by different vegetation communities and by the fringe effect between the interior and the Atlantic coast. Even though subsistence is mainly based on artiodactyls (guanaco), the environmental distinctiveness of the area allows for a more diverse range of prey exploitation and flexible behavioral responses, as opposed to a consistent specialization. This paper discusses subsistence, lithic technology and settlement systems in order to illustrate the adaptive and cultural traits of foragers in this area during the late Holocene.

Martinez, Horacio [158] see *Silverstein, Jay E.*

Martinez, Jennifer (EDAW)

[82] *Reconstructing the Past with GIS Technology: Los Angeles' City Cemetery*

GPS was employed to pinpoint the location of each human burial at Los Angeles' City Cemetery; however, this only tells the modern half of the story. Who were these people? The only available cemetery plot map indicates no scale or surrounding structures. Furthermore, over the past 150 years, the area's topography, street alignments and widths, and buildings have been substantially altered. GIS was therefore used to line up common features on scanned historical maps, producing 2D and 3D depictions of the historical cemetery remains superimposed on the contemporary landscape and allowing many remains to be matched to cemetery records.

Martinez, Jupiter (INAH-Sonora) and Maribel Cruz (Centro INAH SONORA)

[185] *Nuestra Señora de los Dolores de Cosari Mission: A Cultural Sequence Proposal from a Trincheras Site into a Jesuit Village in the Northeast of Sonora, México*

In this paper we are going to discuss the changes in material culture among the prehistoric groups on the Upper San Miguel River where Father Eusebio Fco. Kino's first mission was established. This place, used as a mission, had a short time occupation of no more than 60 years and remained solely under Jesuit control. After some archaeological excavations, we have found that the historic, protohistoric and prehispanic artifact assemblages are possible to define. What does this mean in terms of human groups? Continuity or movement?

Martinez, Natalia (University of Arizona) and Karen Adams (Crow Canyon Archaeological Center)

[89] *Archaeological Maize: A Re-assessment of Traits Relevant to Distinguishing Varieties*

Since 1899 scientists have observed and recommended nearly 100 maize (*Zea mays*) morphological traits useful in defining maize varieties. We reviewed this extensive literature, and selected a short list of ear, cob and kernel traits whose morphologies appear strongly influenced by their genetic base, and not by environmental factors or interactions. Then, modern Native American maize of four morphologically distinct ear groups, grown in a uniform environment, provided a well-documented sample to test the utility of the cob and kernel traits to also clearly distinguish the four groups. Controlled burning experiments then re-tested the usefulness of these traits for archaeological specimens.

Martínez, Silvia (Instituto Nacional de Antropología e Historia) and Sergio Suárez Cruz

[138] *Los altares Olmecas Xicalancas de Cholula, Puebla*

Existen tres altares sobre la Gran Pirámide de Cholula y su entorno que han sido considerados como evidencias de grupos Olmecas Xicalancas que, según las fuentes, se asentaron en la ciudad, luego de que ésta fuera abandonada a finales del Clásico. Recientes investigaciones en el centro histórico de San Pedro Cholula nos permitieron descubrir otro altar que, pese a encontrarse bastante distante de los anteriores, por su forma y material asociado creemos que también pertenece a los grupos Olmecas Xicalancas. Haremos una comparación arquitectónica de los altares existentes, sus orientaciones y materiales asociados, tratando de encontrar alguna evidencia de transición.

Martinez Del Campo, Sofia (CORDINACION NACIONAL DE MUSEOS Y EXPOSICIONES INAH)

[74] *Appearance of the Ceremonial Masks from Palenque, Calakmul, and Dzibanché, Reflection of Their Crafting*

After six years of restoration labour of several green stone mosaic Maya ceremonial masks, included in the Funerary Mask Project, achievements approach us to the recovery of the original values conferred to them during the Maya Classic period. Their distinctive characteristics, such as the quality of their constitutive materials, their crafting, and their features, have lead us to consider the presence of workshops with defined patterns, that established notable differences among the ceremonial masks from Palenque, Calakmul, and Dzibanché.

Martínez López, Cira [32] see Winter, Marcus

Martínez Sosa, Gloria [32] see Jimenez, Jose C.

Martinez Yrizar, Diana [180] see McClung de Tapia, Emily

Martlew, Holley [309] see Smith, Colin I.

Maruyama, Masashi and Akira Matsui (Nara Research Institute for Cultural Properties, Nara)

[188] *Wetland Archaeology in Japan-The Oldest Basket Makers of Jomon Culture found around 7,000 BP.*

The Higashimyo wetland site was discovered in 2003 on Kyushu Island. The settlement, burials and six shellmiddens were found near an old coast. Many plant remains were found in and around discovered storage pits. People threw soaked baskets into the storage pits after removing acorns from them. More than 400 baskets or woven bags have been found. One basket fragment was dated $6,976 \pm 36$ y. BP. by AMS, just before the maximum Jomon Transgression. Since all areas contain the same pottery types, occupation was short. Most wooden vessels, planks, ropes and bone ornaments found are the oldest known in Japan.

Marwick, Ben (University of Washington)

[141] *Hoabinhian Palaeoeconomics and Palaeoecology at Two Late Pleistocene and Early Holocene Archaeological Sites in Northwest Thailand*

Understanding the feedback loop between environment and human society is notoriously challenging for extinct forager groups because of ambiguities in the archaeological record. This is especially true for Mainland Southeast Asia where current narratives of forager prehistory homogenise the evidence into vast blocks of time and space. Recent high resolution analyses of lithic technology coupled with palaeoecological reconstruction from oxygen isotope analyses of freshwater shells from two rockshelter in the highlands of Northwest Thailand shows previously undocumented scales of technological variation. Localised behavioural ecological modelling of the economics of lithic technology has been useful for understanding this variation.

Marwick, Ben [141] see Given, Olivia N.

Marzahn-Ramos, Betsy (Dept. Anthropology, Brandeis University)

[203] *Investigations at the Late Preclassic Maya Site El Zancudero*

El Zancudero, a Late Preclassic Maya site, made use of the natural landscape and an 800m defensive wall to protect its central plaza. The Sierra del Lacandón Regional Archaeology Project conducted reconnaissance, survey and mapping, and test pit excavations at this site in the Sierra del Lacandón National Park in both 2006 and 2007 field seasons, and this paper presents the results of field research and preliminary ceramic analysis. The data collected from this site place it within the context of political competition proposed by some scholars for the end of the Late Preclassic period in the Maya Lowlands.

Maschner, Herbert (Idaho State University), Bruce Finney (Idaho State University), James Jordan (Antioch New England Graduate School), Matthew Betts (Canadian Museum of Civilization) and Nicole Misarti (University of Alaska- Fairbanks)

[289] *Ecosystem engineering and the biocomplexity of Sanak Island, western Gulf of Alaska: deconstructing the "natural" in marine environments*

Modern marine management is hampered by less than 50 years of time series data in most oceanic regions resulting in uninformed management decisions. New archaeological, ethnohistoric, ecological, and paleoecological data from the western Gulf of Alaska demonstrate that many species have centennial or millennial scale cycles often influenced by changing climatic and oceanic regimes. Using a 5000 year time series, we show that parts of the 'natural' north Pacific ecosystem has been engineered by human harvesters over many millennia and that the system cannot be understood without reference to humans as a critical aspect of that ecosystem.

Maschner, Herbert [194] see Jordan, James; **[241]** see Benson, Buck G.; **[17]** see Misarti, Nicole; **[220]** see Tews, Amber M.

Maschner, Herbert D. G. [230] see Betts, Matthew W.; **[11]** see Marler, Ben; **[36]** see Lech, Veronica

Maschner, Herbert H. G. [220] see Cordell, Craig L.

Mason, Owen (Geoarch Alaska), Christyann Darwent (Univ. California Davis), John Darwent (Univ. California Davis), John Hoffecker (INSTAAR, Univ. Colorado) and Nancy Bigelow (Univ. Alaska Fairbanks)

[17] *A Population Surge at Cape Espenberg ca. AD 1100: Was it Catalyzed by Bowhead Whaling?*

Cape Espenberg, within Kotzebue Sound, is typically ice bound all winter, outside the present migration patterns of bowhead whales; whale bone within its sites is attributed to adventitious scavenging. Mapping and recording in 2007 documented > 80 multi-room house depressions occupied between AD 1100 and 1400, the Cape's most intensive occupation in 4000 years. The high amount of whale bone on the surface and in features occasions reevaluation: Possibly, Thule people were whaling at Cape Espenberg during anomalous ice conditions of the Medieval Warm Period, defined by proxy climate indicators from beach ridge stratigraphy, tree rings, peat and limnology.

[17] *Chair [17] Co-Organizer*

Masse, W. Bruce [57] see Barrientos, Gustavo

Massigoge, Agustina [117] see Gutierrez, Maria A.

Masson, Marilyn (University at Albany SUNY) and Patricia A. McAnany (University of North Carolina - Chapel Hill)

[56] *Relevance and the Career of Jeremy A. Sabloff*

Relevance—defined as “the applicability to or connection with real-world issues, present-day events, or the current state of society”—has been a leitmotif in the career of Jeremy A. Sabloff. We outline the changing face of relevance within archaeological anthropology and highlight issues of relevance that loom large in the career of Jeremy Sabloff: gender parity within archaeology, public support of and access to archaeological research, the future of urbanism, communication with stakeholders, cultural heritage and preservation, and outreach to lay audiences. Notably, sensitivity to archaeological relevance appears to be quickening, which bodes well for the future of archaeology.

[56] *Co-Organizer*

Masson, Marilyn [14] see Hare, Timothy S.

Masucci, Maria (Drew University), Katie Caljean (Vanderbilt University), Scott Smith (University of California, Riverside) and Tad Britt (U.S. Army Corps of Engineers)

[200] *Mapping Guangala and Manteño craft production, settlement and socio-political change in the Zapotal River Valley, Southwest Ecuador: An application of sensor integrated GPS/GIS tools*

An integrated GPS/GIS mapping program used to investigate transitions from the Guangala to Manteño cultural phases, Zapotal River Valley, southwest Ecuador demonstrates changes in settlement distribution, size and evidence of craft production (AD 600 - AD 1200). These data correlate with evidence from throughout coastal Ecuador and the Andean region which mark a period of transitions in socio-political organization. The causal factor cited in explanatory models for these changes has been increased specialization, trade and economic differentiation. The role of these factors in the observed transitions in the Zapotal Valley is examined through the survey data and presented using robust GIS methods.

Mathers, Clay (Statistical Research, Inc) [78] Discussant

Mathews, Bethany

[188] *Balanophagy in the Pacific Northwest: The Acorn-Leaching Pits of the Sunken Village wet site 35MU4 and Comparative Ethnography of Acorn Use*

Archaeological and ethnographic studies in North America have recorded the use of acorns where they were available to cultures through resource or trade, however in the Pacific Northwest acorns have generally not been considered an important resource. Recent archaeological examination of over sixty acorn-leaching pits on Sauvie Island, Oregon suggest otherwise. Study of the Oregon white oak range and a compilation of ethnographic

information indicates that acorns were consumed in the oak's range from present-day northern Washington, to the tribes of Oregon, and continues south into the well-documented California acorn cultures.

Mathews, Darcy (Department of Anthropology)

[295] *The Mortuary Landscape of Rocky Point, British Columbia*

Mortuary rituals are a visible venue for the assertion of identities. Burial cairns are precontact surficial burial features in the Strait of Georgia region of southwestern British Columbia, Canada. The Straits Salish people, an ethnolinguistic group centered on present day Victoria, constructed a cairn cemetery at the Rocky Point site with over 300 cairns which occur in a variety of patterned shapes and sizes. Analysis of cairn morphology and the use of space within this site suggests that there was a strategic use of material culture in Salish mortuary ritual, possibly expressing simultaneous statements of individual and group identity.

Mathews, Ruth (Michael Baker Jr., Inc.)

[316] *Understanding Lime Production Variation in the Maya Lowlands*

The focus of this presentation is on lime production in the Maya Lowlands. Despite lime's widespread use and the development of differing lime production strategies in both pre-Hispanic and contemporary Maya society, archeological investigations have primarily concentrated on lime's association with architecture. Lime used for construction is only one aspect of its import, and the cultural significance of its production goes beyond the realm of kings and monumental architecture. The diversity of lime production methods suggest that variation in production strategies was a direct response to differing consumption levels, changing environmental factors, technological innovation and varying socio- organizational systems.

Mathiowetz, Michael (U.C. Riverside)

[185] *The Sun Youth of Mesoamerica and the Greater Southwest: Mesoamerican Religion and Cosmology at Paquimé, Chihuahua*

The archaeological site of Paquimé, Chihuahua is central to debates concerning the extent to which Mesoamerican religion influenced the significant ideological changes in the Greater Southwest after A.D. 1200. This study establishes that the Mesoamerican solar deity Xochipilli served as the prototype, via Paquimé, for the widespread Sun Youth in the Southwest. This identification has implications for studies concerning Southwestern religion and the shift to plaza-oriented villages. The degree of specificity of the character traits shared between the Sun Youths of these regions suggests that the transfer of this ideology may have involved the presence of Mesoamerican peoples at Paquimé.

[185] *Chair*

Mathiowetz, Michael [112] see *Coltman, Jeremy D.*

Matisoo-Smith, Lisa (University of Auckland), Alice Storey, Judith Robins (Dept of Anthropology & Allan Wilson Centre for Molecular Ecology & Evolution, Un) and Melanie Hingston (School of Biological Sciences & Allan Wilson Centre for Molecular Ecology & Evol)

[256] *Ancient and modern mtDNA and the commensal model for the human settlement of the Pacific*

Over the last 10 years we have developed the commensal model to track prehistoric human migration and mobility through the Pacific. We have found that the approach is most successful when multiple species are studied as each may present a different aspect of the human history of the region. Here we present the results of both ancient and modern DNA studies of four commensal animals and compare these results to analyses of human genetic variation to better understand the complex process of the human exploration and settlement of the Pacific.

Matos, Ramiro [13] see *Arellano, Carmen*

Matson, Mark [194] see *Crowell, Aron L.*

Matson, R. (Univ of British Columbia) [249] Discussant

Matsui, Akira (Nara Natl Cultural) and Peter Bleed (University of Nebraska-Lincoln)

[22] *Jomon Ecological Style, Agricultural Origins, and the Delayed Appearance of Rice Farming in Japan*

Cultures of the Jomon era practiced a distinctive ecological style that endured in Japan with great stability during the early and mid Holocene while other parts of the world experienced dramatic change. Adjusted to the beneficent Japanese environment and anthropogenic zones, large and complex Jomon communities developed harvesting, bulk processing technologies, and active manipulation of plants and animals. As viewed in terms of niche construction, the sophistication of the Jomon ecological style raises questions about the conditions that gave rise to domestication. It may also help to explain the late appearance, but rapid expansion of wet rice agriculture into Japan.

[188] *Co-Organizer*

Matsui, Akira [188] see Maruyama, Masashi

Matsumura, Dr. Hirofumi [141] see Huffer, Damien G.

Matthews, Leah [297] see Davis, Peter F.

Mattson, Hannah [140] see Fretwell, Hannah V.

Maxwell, David (Statistical Research Inc)

[8] *60 Years in Canada: A Archaeologists Guide to Canadian and North American Beer Cans*

The canning of beer in Canada did not occur until 1948, some 13 years later than in the United States, and canned beer sales in Canada did not top 3% of the market until the early 1980s. Despite these slow beginning, Canadian beer cans have a long history, and like their U.S. cousins, can often be dated to within a few years of production. This study documents changes in can styles, and contrasts these with similar changes from the U.S.

Maxwell, Judith (Tulane)

[79] *Rebuilding the Maya Cosmos from the Knees Up*

In the highlands of Guatemala, daykeepers, ajq'ija', recreate the universe and their lineage histories whenever they open sacred space. Not only are founding mothers and fathers invoked, but the mountains and valleys are situated. The ritual fire is oriented to four cardinal points and cross-corners, zenith and nadir. Prayer couplets link heavenly bodies and dwellers, direct and legendary ancestors, who are invited to the fire banquet. Once the ritual is completed, they along with the places invoked, the four earth corner pillars, the mountains and valleys, the heavens and the earth. are returned to the non-space-time of the sacred.

Maxwell, Judith M. [280] see Scott, Ann M.

Maxwell, Timothy and Rafael Cruz Antillón (INAH- Chihuahua)

[185] *Production and Exchange in the Casas Grandes Region: A View from the East*

Investigations to the east of Paquimé offer new information on the nature of production and exchange in the region. Archaeological evidence from recently excavated sites provides data that permits us to evaluate some of the existing perspectives on manufacture and trade. We examine the distribution of various trade items among eastern Casas Grandes sites and compare the differences and similarities in their occurrence with reference to Paquimé. Our research indicates that individual patterns in the distribution of exchange commodities present a different picture of the Casas Grandes economy than results from looking only at Paquimé.

May, Elizabeth (University of Arizona), Joe Elkins (University of Northern Colorado), Nichole Elkins (University of Northern Colorado) and Robert Jones (University of Arizona)

[9] *Bison, Blisters, and the "Teachable Moment:" Experiment and Experience in Archaeological Training*

During the summer of 2007, 25 undergraduates took part in a participatory field exercise, butchering a bison using stone tools as a component of a larger lesson plan on prehistoric Native American use of bison, modern bison ecology and management, and stone tool technologies. Drawing on a tradition of field training and experimentation in American archaeology, this project highlights the role of experiential knowledge in the learning process. We argue that classroom-based and field-based instruction are complimentary, and that field experience, with its wealth of "teachable moments," must be preserved as a component of an integrated, interdisciplinary education in anthropology.

May, Jared (University of Landau), H. Edwin Jackson (Department of Anthropology and Sociology, University of Southern Mississippi), John Sullivan (Historic Properties Division of the Mississippi Department of Archives) and Markus Dotterweich (Department of Environmental Science, University of Koblenz-Landau)

[21] *Geomorphic findings at Winterville Mounds, Mississippi*

During the field seasons of 2006 & 2007 we studied the geomorphic features associated with the Mississippian Period occupation at Winterville Mounds, which is located in the Mississippi Alluvial Valley, in northwest Mississippi. Here we present our main findings regarding landscape reconstruction during occupation, characterization of archaeological strata and features through physical and chemical analysis, and also micromorphology, and the results of coring a minor mound at Winterville. These efforts are part of a multi-year archaeological study of the Mounds and will be presented in the context of how geomorphic studies may augment the understanding of the site's archaeological record.

Mayer, Gary [137] see Ullah, Isaac I.

Mayer, James (University of Arizona)

[184] *Geoarchaeological Context of Paleoindian Sites in Middle Park, Colorado*

Geoarchaeological investigations in Middle Park, Colorado, have produced important information regarding the soil-stratigraphic context of Paleoindian sites. Early and Late Paleoindian components in upland settings occur in a buried soil formed over thin, fine-grained eolian and slopewash deposits. The soil is an important pedostratigraphic marker, reflecting an episode of landscape stability between ca. 9000-5000 14C yr BP. Soil morphological properties indicate expansion of forest and grass cover in areas currently supporting sagebrush steppe, comparing well with regional paleoenvironmental records that suggest expansion of upper and lower tree lines in response to warmer and probably wetter early to middle Holocene conditions.

Mayfield, Tracie (Illinois State University) [166] Co-Organizer

Maynard, David (California State University) and Frances Berdan (California State University San Bernardino)

[74] *The Adhesive and Repair Material on Lord Pakal's Funerary Mask: some broader implications*

Lord Pakal, ruler of Palenque from 615 to 683 CE, is perhaps best known through his magnificent greenstone mosaic funerary mask. The adhesive used to glue the greenstones to their backing on this mask has been analyzed by GC/MS, revealing copal as the adhesive. The same technique has revealed that beeswax was used in a repair to the mask. This paper presents these data, and further explores the use of copal and beeswax on other ancient Mesoamerican objects, their inherent qualities as adhesives, their availability, and the production processes behind their use in the manufacture of mosaic objects.

Mayor, Anne (Universite De Geneve)

[76] *Precolonial power and ceramic traditions in the Niger Bend*

One question often posed in Africanist archaeology is the role played by successive imperial centres upon material traditions - in other words, the nature of their authority over groups of artisans. Examples chosen from the precolonial Niger Bend demonstrate contrasting situations, indicating different types of relationships between central political powers and blacksmiths and potters, and the results of those relationships in terms of the evolution of ceramic traditions.

Mayro, Linda (Pima County Administration) [103] Discussant**McAnany, Patricia, Satoru Murata (Boston University) and Shoshaunna Parks (Boston University)**

[282] *The Maya Cultural Heritage Initiative and Grassroots Education Efforts*

Archaeologists have made tremendous strides towards revealing and interpreting Maya cultural heritage but little has been shared with descendant communities within Honduras, Guatemala, Belize, and southern México. Local communities struggle further with under-funded schools in which cultural identification with the past is actively discouraged. The Maya Area Cultural Heritage Initiative seeks to redress this situation through grass-roots communication via workshops, school curricula, radio programs, and puppet shows presented by Maya educators in local languages whenever possible. One of the goals of this initiative is to strengthen links between stakeholders and the past and to increase the perceived value of archaeological heritage.

[134] *Discussant*

McAnany, Patricia [233] see *Harrison-Buck, Eleanor*

McAnany, Patricia A. [282] see *Parks, Shoshaunna*; **[56]** see *Masson, Marilyn*

McAndrews, John [127] see *Turton, Charles L.*

McAndrews, Timothy [298] see *Tenpas, Andrew S.*

McBrearty, Sally (University of Connecticut)

[149] *Implications of Variability in the African Acheulian and Middle Stone Age*

The division of African prehistory into Earlier, Middle, and Later Stone Ages has had heuristic utility, but now impedes our understanding of the past. The Middle Stone Age and the Acheulian portion of the Earlier Stone Age in particular are assumed to be technologically uniform through space and time. In fact these supposedly static entities exhibit internal variability that sometimes exceeds the differences between them. It is recommended that future research focus upon this variability and the environmental, temporal, and behavioral differences that it represents.

McBrinn, Maxine (The Field Museum)

[111] *Across the West: New Research on Old Sites*

Research on Archaic period sites all over the United States has increased dramatically due to surveys and excavations done through Cultural Resource Management. This research has yielded many surprises. In the Southwest, these include significant use of cultigens as early as the Middle Archaic, and serious investment in houses, canals, wells, terracing and other infrastructure in some areas. How does the new record in the Southwest compare to the rest of the West? And are innovative methods and techniques augmenting what we know about the Western Archaic? This presentation examines trends from the last fifteen years across the US West.

McCafferty, Geoffrey (University of Calgary)

[59] *Liminal States in an Intermediate Area: Mythistorical Tales and Archaeological Realities*

Ethnohistorical sources describe Postclassic Greater Nicoya as an extension of Mesoamerica, with complex polities, organized trade and warfare, and a pantheon of central Mexican deities. These 'mythstories' have strongly influenced culture histories of the

region, overshadowing archaeological evidence to the contrary. Since 2000, intensive archaeological excavations at Santa Isabel--specifically designed to evaluate Mesoamerican migration accounts--have revealed a starkly different scenario. This paper will present ethnohistorical expectations and archaeological inferences to suggest that, during the Early Postclassic Sapoa period, Mexican influences were minimal. Culture change from the preceding Bagaces period still leaves the identity of Santa Isabel's inhabitants in question.

[59] Co-Organizer [138] Discussant; [138] see McCafferty, Sharisse D.

McCafferty, Sharisse (University of Calgary) and Geoffrey McCafferty (University of Calgary)

[138] *Shields of Clay: The Symbolism of Spindle Whorls from Postclassic Cholula*
This case study considers decorative imagery found on fired-clay spindle whorls from Postclassic Cholula as an iconographic system relating to female discourse. The images are related to symbolism associated with the deity complex in pre-Columbian and early Colonial pictorial manuscripts. We conclude that the symbolic system used on spindle whorls and other aspects of female practice created a communication network shared by Postclassic women, and may therefore record arenas of social conflict not recorded in ethnohistorical sources.

McCaffrey, Moira (McCord Museum)

[19] *Visualizing Ancient Social Networks in the Eastern Subarctic*
Thirty years of cultural resource management projects in northern Québec have produced a rich data set that challenges deeply held assumptions about subarctic hunter-gatherers. Clearly, options were constrained in this ambiguous environment, where groups and individuals needed to be both adapted and adaptable in order to survive. Nevertheless, changing patterns of lithic use over 4000 years suggest the importance of social and ideological factors in group mobility and interaction. Concepts and modeling tools borrowed from the scientific study of complex adaptive systems offer new ways to think about the past and a more nuanced understanding of eastern subarctic life.

McCall, Grant (Tulane University) and James Enloe (University of Iowa)

[238] *A Wide View of Hominid Faunal Exploitation Strategies: Comparative Perspectives on the Early and Middle Pleistocene*
Modern archaeological studies have focused on the explanation of variability in assemblage characteristics over space in time. Contrary to this approach, many highly important inferences about early hominid faunal exploitation have rested upon the evidence from a single set of localities—Olduvai—and, more specifically, a single site—FLK “Zinj.” This paper examines a wide selection of Early and Middle Pleistocene faunal assemblages. It finds the ubiquitous influence of taphonomic variables, especially density-mediated attrition. Despite this, the paper also recognizes significant variation stemming from differences in hominid behavior, including adaptation to latitudinal conditions and temporal trends across the Pleistocene.

[238] Chair

McClelland, John (Arizona State Museum) and Lane Beck

[20] *Southwestern Bioarchaeology in the Context of Repatriation: Standards, Qualifications, and Sharing Data*
In the Southwest, the implementation of repatriation legislation has limited osteological observations to nondestructive analysis, restricted the time available for observation, and generally prevented reexamination of remains because of prompt reburial. At the same time, it has increased reporting of burial discoveries, raised the minimum level of osteological documentation required, and increased interaction between bioarchaeologists and descendant groups. Establishing higher standards and qualifications for osteological data recovery is essential to enable synthetic bioarchaeological research which can address larger archaeological research questions rather than being relegated to an osteological appendix.

McClung de Tapia, Emily (Inst de Investigaciones Antro), Cristina Adriano Moran (Instituto de Investigaciones Antropologicas, Universidad Nacional Autonoma de Me), Diana Martinez Yrizar (Instituto de Investigaciones Antropologicas, Universidad Nacional Autonoma de Me), Emilio Ibarra Morales (Instituto de Investigaciones Antropologicas, Universidad Nacional Autonoma de Me) and Julia Perez Perez (Instituto de Investigaciones Antropologicas, Universidad Nacional Autonoma de Me)

[180] *Botanical remains from the Moon Pyramid: Interdisciplinary perspectives*

Seven years of macro and microbotanical analyses from diverse contexts in the Moon Pyramid document aspects of ritual plant use as well as information concerning agricultural practices in the Teotihuacan Valley, modification of the landscape and its implications, and characteristics of the paleoenvironment during the Classic period. Complementary studies of soils and stable carbon isotopes by colleagues in the Earth Sciences (I. Geologia, UNAM) contribute to our understanding of the urban population in relation to the natural and built environment.

McClure, Sarah (Department of Anthropology), Bernat Martí Oliver (Museo de Prehistoria de Valencia), Joan Bernabeu Aubán (Universidad de Valencia) and Oreto García Puchol (Universidad de Valencia)

[153] *Cova de la Pastora and the emergence of social inequality in the Spanish Levant*
Cova de la Pastora is a ritual burial cave in Alicante Province, eastern Spain dating to the Chalcolithic (4th millennium BC). The diversity of grave goods and the remains of at least 75 individuals make it pivotal for characterizing the rise of social complexity in this region and emblematic of the craftsmanship and belief system of farmers during this period. Cova de la Pastora was originally excavated in the 1940s, prior to the advent of radiocarbon dating and other methods now common in archaeology. This paper presents some preliminary results of a new large-scale re-analysis of the site.

McClure, Sarah [153] see Miller, Alexandra E.

McColl, Lynsey J. [260] see Froese, Duane

McConaughy, Mark (PA Historical and Museum Commission)

[284] *Changes in Burial Mound Function at Sugar Run Mound (36Wa359), a Hopewellian Squawkie Hill Phase site, Warren County, Pennsylvania*

Sugar Run Mound (36Wa359) was a Squawkie Hill Phase Hopewellian burial mound located in Warren County Pennsylvania. The earliest burial phase included a central cist, a bird and possible celt/ax effigies made from large stone cobbles. Multiple cremations were interred under the features of Mound Unit 1. Mound Unit 2 consisted of two stone box tombs each containing an extended burial. Mound Unit 3 had an extended burial laid on the existing ground surface. The different modes of burial indicate the function of Sugar Run Mound changed through time. This paper explores those changes.

McCormick, Carmen (University of Cincinnati), Michael Stringer (Trent University) and Scott MacCrae (Trent University)

[234] *Investigations in Contreras, Minanha, Belize: Using GIS to Examine Settlement Patterns and Land-Use Strategies*

The Social Archaeology Research Program (SARP) has yet to demarcate the extent of "greater Minanha," but early indications are that many of the surrounding hilltops and valleys were the locations of communities that helped maintain Minanha's Late Classic royal court. The Contreras Survey Area (Contreras) is located 1.5 kilometers southeast of Minanha's epicenter in an extensively terraced valley. Hence, Contreras is thought to have been one of Minanha's support communities. This research is aimed at exploring possible settlement patterns and land-use strategies employed by the Contreras inhabitants by using a GIS.

McCoy, Jack (Rutgers University)

[238] *Interpreting the "Pre-Oldowan"*

The use of stone tools is one thing that differentiates us from the other hominins. The

earliest evidence of this behavior may exist in the fossil record in the form of hominin modified bone and may be present even in the absence of stone tools. It is possible that if this evidence exists, it involves tool typologies and bone modification patterns specific to this new behavior and not necessarily consistent with Pleistocene/Holocene butchery tools and techniques that became established much later. Therefore the archaeological remains of this novel new and evolving behavior may require investigation based upon an entirely different paradigm.

McCoy, Mark (San Jose State University) and Michael W. Graves (University of New Mexico)

[33] *Valley and Gulch Agriculture: Innovation, Adaptation, and Agricultural Development in Windward North Kohala, Hawai'i Island*

On the geologically older Hawaiian Islands (Kaua'i, O'ahu, Moloka'i) Polynesian farmers found large valleys in which to construct irrigated field systems while on the geologically younger island of Hawai'i, farmers found many fewer valleys, limiting opportunities to expand classic valley agriculture. In this paper we describe innovations in wetland agricultural practices and the adaptation of irrigated farming to a network of smaller, natural gulches that dissect the windward slopes of the Kohala Mountains, Hawai'i Island. We outline how these agricultural systems worked, how they fit within existing classification schemes, and present a preliminary chronology for agricultural development.

McCoy, Mark [33] see *Stephen, Jesse W*

McCoy, Timothy [50] see *Marquardt, Amy E*

McCulloch, Tom (Advisory Council on Historic Preservation) [78] *Discussant*

McCutcheon, Patrick (Central Washington University), Kevin Vaughn (Central Washington University), Nicholas Smith (Central Washington University) and Tara Gauthier (Confederated Tribes of the Warm Springs Indians)

[172] *A Method and Technique for Evaluating Chronologies*

Models for prehistoric human land use in the southwest Washington Cascade Mountains are tied to the distribution of dates from archaeological sites in this region. Initial efforts found gaps or hiatuses, while more recent efforts have filled in these gaps with additional dates. We present a critical evaluation of those dates and the archaeological context in which they were recovered to determine the accuracy and precision of the chronology. The removal of 'low quality' dates re-introduces some gaps in human land use of these mountainous landscapes and provides a new view of upland human land use during the Holocene.

McCutcheon, Patrick [219] see *Dancey, William S.; [219]* see *Vaughn, Kevin A*

McDaniel II, Sandy [214] see *Halbmaier, Rebecca L.*

McDonald, Greg [224] see *Stafford, Thomas W.*

McDonald, Josephine (Australian National University) and Peter Veth (Australian National University)

[270] *Information Exchange amongst Hunter-Gatherers of the Western Desert of Australia* Australian Western Desert Aboriginal groups display some of the highest levels of residential mobility and lowest population densities recorded globally. Nevertheless, aggregations of many hundreds of people occurred regularly exchanging information, material culture and genes. Widespread connections in kinship, language, ritual and material culture over vast distances are documented. The engraved and painted art corpus of the Western Desert is a tangible symbolic behaviour aimed at transmission of information, maintaining both long-distance networks and establishing group identity. We report on recent dating of pigment art and stratified sites and outline the information exchange model being developed for the Western Desert.

McDonald, Josephine [270] see *Veth, Peter Marius*

McDougall, Darin (Washington State University) and Andrew Duff (Washington State University Department of Anthropology)

[126] *Technological Analysis of Ceramics from Cerro Pomo, a Great House Community in West-Central New Mexico.*

We use technological analysis of ceramics to examine identity in the border community of Cerro Pomo. Cerro Pomo is a Pueblo II period Chacoan Architectural Complex located south of Zuni and north of the Mogollon Rim, at the intersection of two traditional culture areas, each with its own distinct undecorated pottery tradition. An extensive oxidation analysis study was undertaken, revealing trends in the production of brown, gray, red and white wares from the community. These data are used to suggest which ceramics were manufactured locally and to discuss the identities of their makers.

McElreath, Richard [193] see *Stevens, Nathan*

McElroy, Windy

[33] *The Development of Wetland Agriculture in a Windward Hawaiian Valley: Evaluating Factors of Risk, Effort, and Production Output in Wailau, Moloka'i*

This research evaluates two models for the development of irrigated agriculture and tests the models in the remote Wailau Valley in the Hawaiian Islands. The models assign varying priority to risk, effort, and production output: in the first model locations for farming are chosen in relation to achieving maximum agricultural output; in the second, farmers initially selected low-risk, low-effort areas and later moved to locations that would require a greater labor investment for farming. In Wailau, production output was a major consideration in initial field construction and large amounts of effort were invested in fields that could produce high yields.

[33] *Co-Organizer*

McEwan, Colin [74] see *Stacey, Rebecca J.*

McFarlane, William (JCCC - Anthropology) and Miranda Stockett (Cornell University)

[97] *Recent Research in the Jesús de Otoro Valley, Honduras: Methodological and Chronological Considerations*

Recent research in the little-known Jesús de Otoro valley of Honduras has revealed abundant archaeological resources that may contribute greatly to understandings of social identity, colonial period conflict, and political economy in southeastern Mesoamerica. Systematic survey has begun to reveal a complex history of Lenca occupation, ranging from the pre-Classic through the colonial period, but has also exposed the severe damage inflicted upon many of the archaeological remains by modern agricultural and cultural activities. In this paper, we present what is known of the valley's pre-Columbian occupants and discuss methodological approaches to recovering information from severely damaged archaeological sites.

McFaul, Michael [184] see *Pitblado, Bonnie Lynn*

McGee, Ben (Institute of Temporal Dynamics, Inc.)

[174] *Intersections of Planetary Science and Archaeology: Planetary Protection, Astrobiology, and Guidelines for a Xenoarchaeological Methodology*

As planetary exploration advances, the likelihood of encountering remnants of astrobiological activity increases. With the demonstrated propensity for the social mind to romanticize and elevate to legendary status even the most benign planetary landforms as pseudo-xenoarchaeological evidence, the gravitas and unfavorable environmental and political conditions under which a genuine initial xenoarchaeological investigation may be undertaken will ensure that a reactive and poorly preconceived methodology will be plagued by errors, inaccuracies, rushed judgments, and undisclosed bias. Central principles for establishing a rigorous xenoarchaeological methodology will be proposed, applicable protocols and international agreements will be reviewed, and technical difficulties will be discussed.

McGill, Dru (Indiana University), Christine Fik (Indiana University), Eric Stockdell (Indiana University) and Staffan Peterson (Indiana University)

[9] *Research, Education, and Outreach in Recent Field Schools at Angel Mounds (12-Vg-1), Indiana*

Expanding on research begun in the 1930s by Glenn A. Black, Indiana University archaeologists have recently conducted three field-school programs at the ancient Mississippian site of Angel Mounds in southwest Indiana. These programs have produced large amounts of archaeological data, providing unique opportunities for cooperative research and education between graduate and undergraduate students. In addition to instruction on research methods, students have been trained in geoarchaeology, geophysical remote sensing, and archaeological ethics. This poster highlights recent research on household craft-production and ground-stone tool distribution at Angel Mounds, as well as education and outreach initiatives at this important State Historic Site.

McGill, Dru E. [129] see Munson, Cheryl Ann

McGovern, Thomas (Anthropology Dept) [246] *Discussant*

McGovern, Thomas [246] see Perdikaris, Sophia

McGrath, Stacy (Binghamton University) and D. Andrew Merriwether (Binghamton University)

[223] *Ancient Mitochondrial DNA Study of Aleuts and Alaskan Eskimos*

We investigated the mitochondrial DNA origins and affinities of ancient and modern Aleuts and Eskimos from Alaska with regards to the peopling of the New World. Microevolutionary relationships among these populations are explored in the context of the ethnohistory, linguistics, and archaeology of the region. Preliminary results demonstrate genetic continuity in the region for thousands of years, thus highlighting the tendency for Aleuts and Eskimos to remain distinct from one another in spite of geographic proximity and language similarity.

McGregor, Wendolyn

[300] *The Power of Shoshone-Bannock Intangible Properties*

Many Native American tribes believe that intangible knowledge can only be owned by one group at a time; so when that information is controlled by others, the tribes have lost some of their power. As many native intangible properties (i.e. photographs, songs, anthropological field notes) are currently in the possession of non-native groups, the Shoshone-Bannock Tribes are concerned about their heritage. Therefore, they want federal legislation that addresses the possibility of interpreting or revising the Native American Graves Protection and Repatriation Act (NAGPRA) to allow for the repatriation of intangible knowledge. The research, however, does not support this potentiality.

McGuire, Erin-Lee (University of Glasgow)

[264] *Life and Death on the Viking Frontier: burial rituals, material culture and migrant identities in the Norse North Atlantic*

This paper will examine the use of funerary ritual and material culture to display, construct and define migrant identities in the Viking Diaspora. When the Norse settlers chose to establish new homes outside Scandinavia, their decisions impacted their personal lives. Migration alters individuals' relationships with the people around them, ultimately affecting and shaping society. While these social consequences have been the focus of research in a number of fields, they are rarely addressed in Viking Studies. This paper explores the ways in which gender relations and family structure shifted in Iceland during and following the Norse landnám (land-taking).

McGuire, Kelly (Far Western Anthropological) and William R. Hildebrandt (Far Western Anthropological Research Group)

[57] *Middle Holocene Adaptations on the Central Coast of California: Estuaries and their Influence on the Development of Acorn-Intensive Economies*

Central California estuaries reached maximal levels of productivity during the Middle Holocene at the same time that interior California and the Great Basin faced resource stress. Archaeological data indicate human populations reached relatively high densities at estuaries during this interval, and show the earliest evidence for intensive mortar and pestle use in the state. While the estuaries provided an abundance of protein-rich resources, it became necessary to intensify the production of carbohydrates to take full advantage of this expanding source of marine food. This relationship may signal the origin of the acorn-intensive economies that ultimately characterized much of aboriginal California.

McGuire, Randall (Binghamton University), Elisa Villalpando (Centro INAH Sonora) and Rafael Cruz (Centro INAH Chihuahua)

[34] *The Concept Of The Gran Chichimeca, From US And Mexican Perspectives*

Charles Di Peso proposed his concept of the Gran Chichimeca to remove the international border that divides the Southwest/Northwest and to shift the gaze of North American archaeologists from the north looking south to the south looking north. Despite his efforts the border continues to divide the archaeologists who work in the region. North American archaeologists largely have rejected his perspective. Over the last 30 years, a thriving community of Mexican archaeologists has developed, in Chihuahua and Sonora. These archaeologists are trained in Mesoamerica and their gaze is from south to north.

[228] *Discussant*

McHalsie, Albert (Sto:lo Research Resource Management Center) and Dave Schaepe (Sto:lo Nation Research and Resource Management Centre)

[18] *Insights from a Decade of Indigenous Archaeology Experienced through the Sto:lo Nation/Tribal Council*

This presentation employs a "case study" approach in presenting a First Nations perspective on contemporary archaeological issues in southwestern British Columbia. Based on experiences in cultural heritage resource management and research accumulated over the last decade, we outline some of the main goals and strategies of the Sto:lo Nation/Tribal Council regarding Sto:lo involvement in archaeological research and regulation within S'ólh Téméxw - the lower Fraser River Watershed. We discuss the main elements of the cultural framework supporting the Nation's heritage policy development and administration. Principles supporting that framework - particularly shxwelí - represent critical points of intersection between "western" and "indigenous" archaeologies.

McHalsie, Albert [52] see *McHalsie, Edith*

McHalsie, Edith (Sto:lo Nation - SRRMC), Albert McHalsie (Sto:lo Research and Resource Management Centre) and David Schaepe (Sto:lo Research and Resource Management Centre / University of British Columbia)

[52] *Establishing Relations between Indigenous Knowledge and Archaeology in the Lower Fraser River Watershed*

A too-often silent indigenous knowledge underlies the 'archaeological' sites and features in S'ólh Téméxw ('Our World') -- the lower Fraser River Watershed. Bringing together indigenous knowledge and that resulting from archaeological investigations can be a mutually beneficial experience, facilitating a common point of relating. Halq'emeylem place-names, associated with these archaeological sites, provide one outlet for successfully bringing out the indigenous knowledge and perspectives accounting for these elements of S'ólh Téméxw. This poster provides sqwelqwel (personal histories) and sxwoxwiyam (narratives of the distant past) grounding the archaeological explorations of the Fraser Valley Project within a landscape of indigenous Sto:lo knowledge.

McInnis, Heather (DePaul University)

[231] *Regional Variability in Land and Resource Use on the Southern Peru Coast in the Early and Middle Holocene*

Archaeological data from 23 sites in the Pampa Colorada demonstrate three key settlement transitions from the Terminal Pleistocene/Early Holocene to the end of the Middle Holocene and a shift from intensive specialized fishing and foraging to diverse marine-based subsistence strategies. This pattern is consistent with Jaguay and Machas Phase culture, as represented in the Quebrada Jaguay region, though more variability in land and resource use is apparent in the Pampa Colorada sample. Comparison of the study areas suggests that dynamic economic strategies were directly related to changes in shoreline position and in the distribution of lomas vegetation.

[231] see Reitz, Elizabeth J.

McInteer, Jason

[299] *Rodeo-Chediski Fire in Northern Arizona: A millennium of natural preservation up in smoke.*

The 2002 Rodeo-Chediski fire destroyed vegetation that provided crucial protection to many archaeological resources. The obliteration of the vegetation accelerated the erosion processes that resulted in damage and exposure of cultural deposits. The objectives of the Decker Wash Felling Project include site stabilization, fuels reduction, improve watershed conditions, and site protection. Site stabilization included contour felling of dead trees and reseeding in areas of cultural resources. In the service of anthropology, the Decker Wash Felling Project prevents further loss of archaeological resources and ensures the protection of heritage sites that tell the history of the Mogollon Rim country.

McKechnie, Iain (Millennia Research Limited), Audrey Dallimore (Geological Survey of Canada / Royal Roads University) and Gay Frederick (Pacific Identifications Inc.)

[230] *Marine Fisheries and Marine Climate Before and During the Little Ice Age on Western Vancouver Island*

Fisheries facilitate and sustain cultural interaction on the prehistoric Northwest Coast through the communal collection and consumption of marine fish. Oceanographic climate variability, operating at a variety of temporal and regional scales, has the potential to dramatically alter the social and environmental context of cultural interactions. This study utilizes a high-resolution paleomarine climate record from Barkley Sound to investigate the context of synchronous shifts in fish assemblages from shell midden village sites spanning the past 5,000 years. A regional change in the focus and intensity of fishing activity before and during the Little Ice Age indicates broad-scale cultural reorganization.

McKechnie, Iain [256] see Arndt, Ursula M

McKee, Brian (University of Arizona)

[87] *Cinnabar Distribution in Ancient Mesoamerica: Archaeological Sites and Geological Sources*

Cinnabar (HgS) was a widely used mineral pigment in ancient Mesoamerica. The vermillion-colored mineral originates in volcanic settings. Cinnabar has been found in contexts ranging from royal tombs to household storage structures in a variety of sites throughout Mesoamerica. Cinnabar is a good candidate for sourcing studies, as it has relatively few natural source locations, but is widespread in archaeological contexts. This study compares the distribution of cinnabar in Mesoamerican archaeological sites with that of known geological sources. Planned studies will use trace elements and isotopic variation to link archaeological cinnabar with specific sources and to reconstruct cinnabar trade routes.

McKenna, Jeanette (McKenna et al) [166] *Discussant*

McKenzie BSc, Jennifer [139] see Jaagumagi, Alyson

McKillop, Heather (Louisiana State University)

[240] *Ancient Maya Canoe Navigation and its Implications for Classic to Postclassic Maya Economy and Trade: A View From the South Coast of Belize*

Ancient Maya economy and sea trade are evaluated with data from the Classic to Postclassic trading port of Wild Cane Cay and the nearby Late Classic salt works, now underwater. Wild Cane Cay brokered goods and resources from near and far, including jadeite, copper, gold, pottery, obsidian, and marine resources, among others. The discovery of a Late Classic wooden canoe paddle at the K'ak' Naab' salt works provides a tangible record of ancient Maya canoe navigation. The massive salt industry developed to meet inland salt needs and collapsed with the abandonment of the inland cities.

[197] *Discussant*

McKinney, Holly [230] see Murray, Maribeth S

McKinnon, Duncan [129] see Walker, Chester

McLaren, Duncan, Daryl Fedje (Parks Canada), Quentin Mackie (University of Victoria) and Rebecca Wigen (University of Victoria)

[225] *Bear Ceremonialism and Pleistocene/Holocene Transition Cave Archaeology from Haida Gwaii, Coastal British Columbia*

The co-occurrence of bear and archaeological remains in cave and non-cave sites reveal that significant human and bear interaction occurred on the islands of Haida Gwaii at the Pleistocene/Holocene transition. In this paper, patterns of archaeological materials and bear remains revealed during recent archaeological investigations are considered in relation to aspects of bear ceremonialism, ethnographically recorded as being practiced pan-boreally in northern North America, Asia, and Europe. It is argued that at least the seeds of bear ceremonialism were in place in the early archaeological record of the Northwest Coast.

[288] *Discussant*

McLaren, Duncan [275] see Fedje, Daryl; [172] see Steffen, Martina L.; [275] see Mackie, Quentin

McLay, Eric and Colin Grier (University of Washington State, Pullman)

[295] *The Antiquity and Diversity of Archaeological Settlement Patterns on Valdes Island*

This paper presents a series of over 30 radiocarbon dates obtained from a range of archaeological sites on Valdes Island in the southern Gulf Islands, British Columbia. These dates indicate that the frequency of site types and their positioning within this island environment shifted substantially in the Middle Pacific Period, or Marpole Phase (2400-1400/1100BP, reflecting an overall intensification of habitation and diversification of resource acquisition. This local pattern is hypothesized to reflect contemporary changes in socio-political and economic priorities in regional settlement and subsistence activities in the Gulf of Georgia region on the Pacific Northwest Coast.

Mcleod, Bart

[227] *Mapping Formative Period Sculpture: A Look Across Mesoamerica*

The Olmec Cultural Phenomenon that emerged along the Southern Gulf Coast of Mexico during the Formative period is often recognized by monumental stone sculpture. These monumental sculptures, through distinct artistic style, express various themes central to Olmec beliefs and practices. Across Mesoamerica stylistic and iconographic features found on monumental sculpture demonstrate a resemblance to this artistic style, which provides insight into the sociopolitical and ideological interaction across these regions through time. By examining monumental sculpture using geospatial techniques this paper explores the nature and distribution of these artistic expressions in Formative period Mesoamerica.

McMaster, Tanya [133] see White, Carmen; [133] see Spafford, Jim

McMillan, Alan (Simon Fraser University)

[175] *Investigating the Nuu-chah-nulth House: a Barkley Sound Example*

Household archaeology has played a key role on the Northwest Coast over the past few decades, yet we still know relatively little about the nature of pre-contact Nuu-chah-nulth houses. Excavation at Huu7ii in Barkley Sound exposed a substantial portion of the floor of a large rectangular house, last inhabited about 400 years ago. Architectural features are described, as are problems in reconstructing house form through excavation. The distribution of artifacts and faunal remains provides insights into the social realm. Comparisons are made with ethnographic descriptions of later Nuu-chah-nulth houses and considerable diversity is noted.

McMillan, Alan [256] see Arndt, Ursula M

McNamee, Calla [308] see Cyr, Howard J.

McNeil, Cameron (Queens College)

[233] *The Fragrance of Elite Identity: Flowers in Maya Temples and Tombs at Copan, Honduras*

Analysis of microbotanical remains from Copan demonstrates that the Maya filled temples and tombs with flowers and that certain species were used over at least a two hundred year period in ritual practice. Flowers, such as Bourreria, may have been utilized to fill the air within temple precincts with an intense fragrance imbuing such areas with a paradisiacal feel, and playing an important role in the pageantry which reinforced the rights of the elites to control the populace. Other plants such as Typha (Cattail) were employed to recall ancient watery origins, possibly linking this city to Teotihuacan.

McNeil, Lynda (University of Colorado, Boulder)

[71] *Behind Smoking Mirror Pendants and Powamu: Hopi-Fremont Cultural Affiliation*

Within the context of ongoing debates about the relationship between archaeology and oral history, this paper uses linguistic, archaeological, and rock art evidence to corroborate Hopi oral accounts of migration and ceremonial traditions "from the south." I will review the wealth of evidence showing how Basketmaker II to Fremont settlement locations, design, and rock art are logically, thematically, and uniquely related to Hopi Powamu ceremony, artifacts, and ideology.

McPherron, Shannon (Max Planck Institute), Jacques Jaubert (University of Bordeaux I), Jean-Jacques Hublin (MPI) and Marie Soressi (INRAP)

[154] *Sequences and Similarities: Jonzac, La Quina and the late Mousterian*

From 1985 to 1994 Jelinek and Debénath re-sampled the Paleolithic sequence of La Quina, France. They confirmed the presence at the base of a rich bone-bed associated with a Quina Mousterian and in the upper levels Denticulate and Mousterian of Acheulian Tradition. Thirty kilometers to the west is the site of Jonzac, recently re-excavated, where we found a nearly identical sequence including a similarly rich bone-bed deposit at the base. This paper presents the Jonzac sequence and explores the significance for Neandertal behavior of the similarities between of these two sequences and other similar stratified sites in region.

McPherron, Shannon [94] see Schwartz, Steve

McReynolds, Theresa (University of North Carolina at Chapel Hill)

[248] *Lithic Scavenging in the Upper Dan River Drainage of North Carolina*

The use of older stone tools as raw materials for the production of new ones appears to have been common in the upper Dan River drainage of North Carolina during the Contact period. Efforts to begin quantifying the prevalence of this practice during the Late Saratoga phase (A.D. 1670-1710) suggest it may have been a pragmatic response to changing economic conditions accompanying the spread of European settlers and diseases into the North Carolina Piedmont. A better understanding of the spatial distribution of scavenged tools is needed to explore the possibility that lithic scavenging also had social or ritual significance.

McVickar, Janet (Western Cultural Resource Mgt, Inc.)

[126] "Mescal Wash North" : Who Were the Mescal Wash Site Neighbors?

Recent investigations at AZ EE:2:44 (ASM), located just north of Mescal Wash and the Mescal Wash Site [AZ EE:2:51(ASM)], exposed structures, features, and artifact assemblages. Its spatial proximity to the Late Archaic-Formative Mescal Wash Site indicates it was a neighborhood of that larger residential community, presumably with temporal and cultural ties to it. Its broader location, within a little-studied region between the Tucson Basin, San Pedro Valley, Sonoita Basin, and San Rafael Valley begs the question, "Who occupied AZ EE:2:44 (ASM)? Architectural styles, ceramic assemblages, radiocarbon determinations, and other relevant data will be brought to bear on this question.

Means, Bernard (Washington and Lee University)

[174] New Deal Archaeology in Pennsylvania: A Continuing Legacy

75 years ago New Deal funding first supported archaeology throughout Pennsylvania. For seven years, unemployed coal miners, farmers, and railroad workers joined with a civil engineer to labor on New Deal work relief projects. The public's imagination was entranced by tales from the trenches, as ordinary people participated in the grand adventure of archaeology. The legacy of Pennsylvania's New Deal workers has been long lasting and continues to expand our understanding of America's past today. Their discoveries have contributed to a recent major revision of our knowledge of American Indian chronology and community patterns.

Mears, Christian (Geo-Marine, Inc.) and Shaun Phillips (Geo-Marine, Inc.)

[3] What to Do With TRU: Supplemental Analyses Using Transect Recording Unit Field Data

Modern archaeology continues to progress into the age of digital technology and as a consequence of this transition must adapt survey methodologies to incorporate new capabilities. The Transect Recording Unit (TRU) methodology is one such adaptation making use of accurate real-time locational data through handheld GPS (Global Positioning System) units, mobile digital data collection using PDA (Personal Digital Assistant) devices, and a GIS (Geographic Information System) to process and present the field data in spatially meaningful maps. This poster presentation demonstrates some of the analytical capabilities available through use of the TRU methodology as well as some of its limitations.

Mears, Christian [3] see Phillips, Shaun M.

Meatte, Daniel (Washington State Parks)

[306] Clovis on the Western Landscape

There remains a paucity of Clovis occupations in the Pacific Northwest. Especially when viewing the continental site distribution patterns. What can we infer from this patterning? Data on the distribution of Clovis in the region is reviewed. It is argued that regional distribution patterns of sites suggest Clovis employed a ranging strategy designed to explore vast amounts of terrain with few return visits. This implies low population densities and explains the need for a caching strategy to disperse equipment (insurance caches) across the landscape. Winter sedentism may be another trademark of this subsistence and settlement pattern.

Meddens, Frank (Pre-Construct Archaeology)

[147] The Wari state, ancestors, rural hinterland and agricultural infrastructure

Environmental data from the Chicha valley suggest there were three significant phases of landscape instability. The 1st after 70 AD, the 2nd just prior to 1220-1330 AD, and the 3rd after 1720-1890 AD. First terrace construction in the valley dates to the early Middle Horizon, re-building occurred in the Late Intermediate Period. The introduction of maize focussed agriculture occurred in the Early Intermediate Period. The archaeological evidence demonstrates a rapid population increase for Middle Horizon epoch II associated with the first use of terraced agricultural systems. Management of these developments appears to be rooted in concepts of ancestor worship.

Medina, Adriana [104] see Amador, Julio A.

Mednikova, Maria

[291] *The Bioarchaeological Approach in Study of Human Skeletal Remains in Russia: Past and Present*

Approaches to archaeological human remains in Russia can be divided into distinct periods, related to the changing history of the country. Earliest studies date to the late 19th century. The Soviet period of palaeoanthropological research was mainly concerned with studies of skull morphology, which discussed problems of origins and the human colonisation of Eurasia. The current period in Russian investigations of archaeological remains began about 20 years ago with an interest in palaeoecology of ancient societies. Studies in palaeodemography and palaeopathology are more common. Current developments can be characterized as a "return to archaeology" with a renewed emphasis.

Meegan, Cathryn, Rebecca Hill (Arizona State University), Susan Ledlow (Arizona State University) and Teresa Rodrigues (Arizona State University/Gila River Indian Community)

[46] *Sustainable Populations in the Prehistoric Southwestern United States*

Population resource stress is often cited as a factor in prehistoric site and regional depopulations in the southwestern United States. This stress is often manifested as nutritional inadequacies, disease, and traumatic injuries resulting from conflict within affected populations. We explore the correlation between poor nutrition, disease, and trauma in several regions across the southwest. Analysis of macrobotanical and faunal data will provide indirect evidence of diet and inferred nutritional stress at sites with skeletal material available. Skeletal data are used to directly evaluate the presence and severity of disease, trauma, and nutritional stress.

Meehan, Patricia [74] see Jaidar, Yareli

Meeks, Scott [143] see Anderson, David G.

Mehalic, David (Coronado National Forest University of Arizona)

[107] *Challenges Of Historic Preservation Along The U.S.-Mexico Border: Examples From Southern Arizona's Coronado National Forest*

The Department of Homeland Security's unprecedented attempts to "close" the United States' boundary with Mexico, along with many of the associated construction projects and illegal activities, continue to threaten the historical legacy and tangled archaeological landscapes of the Borderlands. Advocacy for historic preservation dims in comparison to more palpable social issues, but it provides opportunities to confront common responses to these issues. Examples of ongoing historic preservation efforts from southeastern Arizona's "Sky Islands" demonstrate some of these challenges and highlight the need for continuing attention to the area's archaeology and history, especially on public land.

Mehrer, Mark (Northern Illinois University)

[281] *ethnic markers on 19th century midwest farmsteads*

Recent work at a few 19th century farmsteads in Illinois points up the issue of ethnic transition. When pioneer families moved into Illinois from distant lands, they did not arrive as American Frontier-folk; they arrived with their native ethnicity, for example Irish, French, German, or even Yankee. How, and to what extent, does an immigrant family make the transition from their native ethnicity to that of the fabled American Frontier? Does it begin upon arrival? Are there archaeological markers? The question of ethnic markers at these sites was considered throughout the research process with some surprising results.

Meierhoff, James, Alex Miller (Northwestern University), Caleb Kestle (University of Illinois Chicago), Cynthia Robin (Northwestern University) and Yasmine Baktash (Northwestern University)

[302] *A 2000 Year History of Ritual in a Farming Community*

This presentation explores ritual practices at Chan's central plaza and E-group. Chan's

small ceremonial center, with its 5.6 meter high main temple, would not have been remarkable from the perspective of the broader Maya world. But this place was imbued with sacred significance which persisted over 2000 years while the fortunes of royal sacred sites waxed and waned. The history of ritual at Chan demonstrates that many rituals, initially recognized as Classic period elite rituals, were innovated within farming communities. As Chan's significance has become known, the site is once again becoming a significant locale for contemporary farmers' rituals.

Meierhoff, Jim [302] see *Hetrick, Chris*

Meiggs, David (University of Wisconsin-Madison) and Stanley H. Ambrose (University of Illinois-Urbana-Champaign)

[35] *Gradients in caprine $\delta^{18}\text{O}$ intra-tooth profiles from Neolithic Gritille, Turkey: Implications for herd management, human mobility and subsistence*

Oxygen isotope ratios in tooth enamel have been successfully used to evaluate aspects of the palaeoenvironmental contexts and habitat preferences of prehistoric mammals, and the effects of human management of domesticated species. Intra-tooth variation been used to demonstrate bimodal birth seasons in African prehistoric caprine herds, and potential resource catchments of early food producing communities. Patterns of intra-tooth variation in caprines from Neolithic Gritille, southeastern Turkey may indicate differences in species (i.e. sheep vs. goat), differences in location during the rut, or management of birthing times. This paper will evaluate these possible explanations and consider implications for human mobility.

Meignen, Liliane (CEPAM-CNRS) [189] *Discussant*

Meister, Nicolette [65] see *Green, William*

Meitl, Sarah (University of Alaska Fairbanks) and Daniel Odess (University of Alaska Fairbanks)

[220] *Denbigh Flint Complex at Onion Portage: New Radiometric Assays*

Onion Portage, a stratified archaeological site, was excavated and radiometrically dated during the 1960s and 1970s, a time when Accelerator Mass Spectrometry and fluctuations in the radiocarbon reservoir had yet to be realized. Even after nearly thirty years, Onion Portage continues to be the most important archaeological site in northern Alaska due to its deep stratigraphy and corresponding radiocarbon dates. The current chrono-stratigraphic sequence is re-evaluated utilizing conventional radiocarbon assays and thirteen new AMS dates from Denbigh Flint Complex levels at Onion Portage. Determinations are calibrated, evaluated for contemporaneity, and their implications for understanding the regional culture history discussed.

Meitl, Sarah [17] see *Odess, Daniel*

Melgar, Emiliano (Posgrado UNAM), José Luis Ruvalcaba Sil (Instituto de Física, Universidad Nacional Autónoma de México) and Reyna Beatriz Solís Ciriaco (Centro INAH-Guerrero, Instituto Nacional de Antropología e Historia)

[74] *Non Destructive Study of a Turquoise Disk from the Offering 99 of Templo Mayor of Tenochtitlan.*

In the offering 99 of Templo Mayor of Tenochtitlan, a set of 15000 turquoise mosaics was discovered. After a careful restoration, a 38cm diameter disk showing seven warriors was reconstructed. In order to study the provenance and manufacture of these tessels, a set of non destructive techniques was applied in situ. Our methodology included the use of macro and microscopic imaging using infrared and ultraviolet light, as well as X-ray fluorescence (XRF) by a portable setup. Afterwards, few representative tessels were selected for further analysis using Particle Induced X-rays emission (PIXE) and Scanning Electron Microscopy (SEM).

Melmed, Anamay (EDAW, Inc.)

[82] *Tales Told by Teeth: An Analysis of the Dentition from the Los Angeles City Cemetery*
This paper presents an overview of the dentition recovered from the LA City Cemetery. Dental remains indicate health status through dental pathology. Compared with other nineteenth century cemetery populations, the health of this population is relatively good, and the dental restorations noted suggest the presence of members of a privileged class. Dental morphology is used to interpret ancestral affiliation of the population, including within group variation. The patterns of dental morphology reveal the majority of individuals to be of European descent. The results of this study highlight the important role dentition plays when analyzing a set of poorly preserved remains.

Meltzer, David (Southern Methodist University) [143] Discussant [278] Discussant

Mena, Julio [237] see Sistrunk, Hannah

**Mendez Torres, Enrique (Instituto De Investigaciones Antropológicas) and
Guillermo Acosta Ochoa (Instituto de Investigaciones Antropológicas, UNAM)**

[242] *Lugares sagrados y espacios políticos: El paisaje de las cuevas en los antiguos zoques*
La región noroccidente de Chiapas, tradicionalmente zoque, destaca por cuevas con evidencia arqueológica con depósitos de cerámica, muchas de ellas masivas. Se tienen diversas explicaciones a estas prácticas, destacando su carácter ritual. Empleando análisis químicos para evaluar el posible contenido de las vasijas, y analizando mediante SIG la distribución de las cuevas respecto a los centros políticos entre el Preclásico Tardío y Clásico Tardío, se propone que estos sitios puedan estar vinculados con las prácticas ceremoniales dominadas por los grupos hegemónicos y, al colapsarse el sistema político regional, también fueron modificadas las prácticas culturales asociadas a cuevas húmedas.

Mendiola, Francisco [34] see Ware, John A.

Mendonça, Osvaldo [291] see Bordach, Maria

Mendonça De Souza, Sheila Maria (ENSP/FUNDAÇÃO Oswaldo Cruz)

[291] *Bioarchaeology In Brazil: Ways And Historical Reasons*
First prehistoric human bones were found in Brazil in the XIX, meanwhile National Museum, Rio de Janeiro, tested racial hypothesis. After the fifties archaeological collections were excavated and genetic distances were tested. In the last decades the interest for dental pathology, paleoparasitology (in the sixties), bone pathology (in the seventies), epigenetic, paleodemography (in the eighties), paleogenetics (in the nineties), and other bioarchaeological studies (XXI century) were improved. Along all that time barriers to the improvement of bioarchaeology in Brazil was the critical small number of professionals, the absence of academic specific programs, the reduction of international cooperation, among other reasons.

[139] *Co-Organizer*

Mendonça de Souza, Sheila [139] see Wesolowski, Veronica

Mentzer, Susan (University of Arizona) and Tammie L. Gerke (Department of Geology, University of Cincinnati)

[259] *Micromorphology of alluvial sediments and soils from the Bonjakët Excavations at Apollonia, Albania*

The temple complex at the Bonjakët site, Albania is situated in the floodplain of the Vjosa River between the Classical acropolis of Apollonia and the Adriatic Sea. Geological survey revealed that major, site-scale sedimentary units were deposited during periodic flood events. The degree of soil development and trench-level distinctions between cultural layers and natural features were evaluated with micromorphological studies. Granular microstructures, dusty clay infillings, and secondary iron and calcite are consistent with periodic flooding in a marsh environment and suggest several periods of soil formation

during the occupation of the site.

Menzies, Adam (University of Pittsburgh)

[87] *Craft Production and the Emergence of Chiefdoms in the Rio Parita Valley, Central Panama*

The objective of this research is to evaluate the importance of specialized craft production to the emergence of chiefdoms in the Rio Parita Valley of Central Panama from A.D. 550-1522. This poster presents data on changes in craft production at the site of He-4 (El Hatillo) to evaluate to what degree the production of utilitarian tools such as polished stone axes was important to this process. Similarly, the importance of luxury goods is considered in the context of two periods of major social change. This research also indicates that differences in household wealth accompanied the emergence of chiefdoms at He-4.

Menzies, Adam C.J. [234] see Stemp, William James

Merewether, Jamie (Crow Canyon Archaeological Center), Robin Lyle (Crow Canyon Archaeological Center) and Shaw Badenhorst (Simon Fraser University)

[89] *Osteometric traits and turkey husbandry in the Mesa Verde Region, A.D. 1100-1280*
Ancestral Pueblo people of the Mesa Verde region became increasingly dependent on turkey as a protein source during the Pueblo III period, but the ways in which these flocks were managed is not fully understood. In this study we analyze osteometric data collected from turkey bones from two sites, Albert Porter Pueblo and Sand Canyon Pueblo, to better understand the impact of turkey husbandry for turkey populations. The sites date from A.D. 1100 to 1280, and encompass the period of intensified turkey husbandry. These data allow us to trace biological impacts of the human-turkey relationship through time.

Merrell, Carolynne (Archaeographics) and Ruth Ann Armitage (Eastern Michigan University)

[225] *Dances with Antelopes: Exploring the Possible Use of an Idaho Cave by an Antelope Shaman*

Several ethnographic references describe the role of an antelope shaman in antelope hunting procedures by indigenous peoples of the western United States. One cave at the base of the Lemhi Range in south central Idaho contains pictographs related to shaman activity and material remains of antelope origin. The detailed cave investigation is helping build a connection between what is described in the literature and the archaeological contents of the cave. Scientific analysis of hair, bone and fiber objects, coupled with a unique interior surface coating of the cave suggests that this location may at one time, have been used by someone who specialized in procuring antelope.

Merriman, Christopher (University of New Mexico), Bruce B. Huckell (Maxwell Museum of Anthropology, University of New Mexico) and Matthew O'Brien (University of New Mexico)

[128] *Folsom Mobility and Technological Organization in North-Central New Mexico: The Contribution of Debitage Analysis*

Boca Negra Wash (BNW) is a single component Folsom site located 25 km northwest of Albuquerque, New Mexico. Preliminary analysis of BNW indicates that this site represents a short-term camp around an ancient playa. The objective of this project was to examine mobility patterns and technological organization by comparing raw material frequency in the tool and debitage components. Analysis of approximately 1,800 tools and debitage suggests that each class provides slightly different pictures of raw material use. This study highlights the importance of incorporating both tools and debitage to provide a more complete picture of Folsom movement and technological strategies.

Merriman, Christopher [184] see Pitblado, Bonnie Lynn

Merritt, Stephen (Rutgers University)

[238] *Controlled butchery observations, traces of butchery behavior, and their interpretive value in Koobi Fora archaeofaunal analysis*

Experiments controlling for distinct butchery tasks, experience levels, and stone tool morphologies identified a range of butchery traces related to these behavioral variables for large and small ungulate carcasses. Preliminary analysis suggests that cut mark's cross-sectional morphology, measured from molds, can distinguish tool morphology, and differences in spatial patterning of cut marks at anatomical landmarks, analyzed from photographs, can distinguish butchery tasks and butcher experience. These results are applied to paleoecological analyses of Okote member archaeofaunal assemblages from Koobi Fora, Kenya. Techniques for modeling butchery's trace fossils, as well as inductive versus deductive strategies of zooarchaeological assemblage interpretation are discussed.

Merriwether, D. Andrew [223] see McGrath, Stacy E.; [223] see Lee, Esther J.

Merriwether, David (dept. Anthropology, Binghamton University)

[223] *Species Identification of Archaeological Remains Using Ancient DNA*

We have devised and optimized three sets of primers that work with a wide range of species that are ideal for species identification, as well as software to pick the closest published species to the sequences detected. These primers are designed to work with poor quality ancient DNA and forensic samples. We conducted double blind testing to see how accurately our method would work, and successfully identified all of the test samples. We believe this will be a very useful tool for archaeologists to identify faunal remains (and human remains).

Mesick, Cassandra (Brown University) and Zachary Nelson (Entrix Inc.)

[297] *Placing the Maya in 3D: Way Beyond Proskouriakoff*

The continuous advent of new technologies for mapping ancient landscapes and recreating extant buildings provides archaeologists with new ways to reconstruct archaeological sites. In this paper, we present recent efforts to image both the natural and architectural topography of Maya cities using the computer animation software Maya 7.0. More specifically, we outline our methodologies, the challenges we faced, and our results in using this rendering program to represent the Classic Period sites of Piedras Negras and El Zoot, both located in Peten, Guatemala. 3D rendering simultaneously suggests innovative and productive applications of technology in Maya archaeology.

Meskell, Lynn (Stanford University), Carrie Nakamura (Columbia University), Rachel King (Stanford University) and Shahina Farid (University College London)

[276] *Figured Lifeworlds and Depositional Practices at Çatalhöyük*

New work at Çatalhöyük attempts to balance the picture between the 1960s and current excavations through a variety of new methodologies and field strategies. Specifically, we are concerned with the spatial and temporal dimensions of figurine deposition at the site with the insight that they almost exclusively represent secondary deposition. We also reconsider wall paintings, plastered features and other modes of image production at Çatalhöyük, as well the wider context of the Anatolian Neolithic. We suggest processes of mobility and circulation that have rarely been considered within the frame of figurine studies.

Messenger, Phyllis (Hamline University) [151] Co-Organizer [25] Chair [151] Moderator

Messner, Timothy and Bill Schindler (Monmouth University)

[24] *It Tastes Like Burning: Processing Strategies and their Archaeological Visibility in Rendering Arrow Arum Edible*

People around the world have a long history of interaction with plants of the Aroid subfamily (Arum). Despite these plants' chemical defenses against predation, humans have targeted their starchy corms and tubers for dietary purposes. In the Eastern Woodlands, early Europeans described the Native population as procuring the highly acrid *Peltandra virginica* (arrow arum). Given the technological investment required to render it edible its absence from the archaeological seems suspect. After establishing a series of trials to determine the

variables necessary to render arum edible we conduct several experiments to determine the archaeological visibility of this process.

[24] *Co-Organizer*

Metcalfe, Duncan and Shannon Arnold (University of Utah)

[214] *Exploring the Tradeoffs of Scatter versus Larder Hoarding (Storage)*

Non-human food storage strategies can be divided into two broad categories that ethologists call larder and scatter hoarding. In general, larder hoards are large, centrally located, and actively defended; scatter hoards are small, "scattered," and hidden. We examine the goal of storage (hoarding) and the constraints determining its payoffs and costs in terms of human adaptations, with specific reference to the storage facilities in Range Creek, Utah. We employ a combination of formal optimality and frequency dependent models to explore the circumstances under which food storage is expected and when different strategies of storage should be practiced.

Metcalfe, Jessica (The University of Western Ontario) and Fred Longstaffe

[218] *Identification of chemical consolidants and their effects on the stable isotope compositions of skeletal materials*

Bone and tooth specimens are often stabilized using chemical consolidants (e.g., polyvinyl acetate, PVA; polyvinyl butyral, Butvar), which can affect the results of stable isotope and other chemical analyses. Consolidants can be identified using color-forming spot tests and spectroscopic techniques such as Fourier Transform Infrared Spectroscopy. We test these techniques on mammoth and mastodon bones and teeth treated with known and unknown consolidants, and examine the effects of consolidants on stable carbon, nitrogen, and oxygen isotope values.

Meyer, Regina (Missouri Army National Guard) and Grant Day (AMEC)

[311] *Camp Clark POW Camp*

During WWII approximately a half million POWs were sent to the United States for internment. To discourage thoughts of escape and sabotage the Camps were placed away from highly populated areas, coastal shipping areas, strategic military bases, and industrial areas. Many of the camps were located in the Midwest and South. Camp Clark located in the rural southwest town of Nevada, Missouri was home to approximately 5,000 POWs between December 1942 and May 1946. Many small towns, such as Nevada, lobbied hard to be chosen as the location of these POW camps.

Meyers, Maureen

[21] *Excavating a Mississippian Frontier Mound Site: Results of 2007 University of Kentucky Excavations at Carter Robinson Mound*

Excavations at the southwestern Virginia Mississippian frontier Carter Robinson (44LE10) mound site were undertaken by the University of Kentucky in 2007. Geophysical testing at the site identified multiple possible structures on top and around the mound; two of these were identified and partially excavated. Structure 1 is located adjacent to the mound and contains a central hearth, several smaller hearths, and interior posts. Structure 2 was identified by the presence of multiple burned logs. Artifacts recovered from these structures suggest a late prehistoric occupation. This paper will describe these excavations and results of ceramic, zooarchaeological and macrobotanical analyses.

[38] *Discussant*

Meyers, Maureen [129] see Henry, Edward R.

Michelaki, Kostalena (Department of Anthropology, McMaster University), Alice Pidruczny (McMaster University, McMaster Nuclear Reactor) and Brandi Lee MacDonald (McMaster University, Dept. of Anthropology)

[215] *Instrumental Neutron Activation Analysis of Neolithic Archaeological Ceramics and Geological Samples from the Region of Bova Marina, Calabria, Italy: Preliminary Results*

In this paper we present preliminary results of our instrumental neutron activation analysis of Early/Middle and Late Neolithic ceramic material from the sites of Umbro Neolithic (5800-2900 cal. BC) and Penitenzeria (5500-5000 cal. BC), in SW Calabria, Italy. Comparison of

archaeological ceramics with locally available clays allows us to situate the task of collecting ceramic raw materials in the wider taskscape of the region. This research is part of a broader project that examines the development of the complete ceramic operational sequence in the commune di Bova Marina from the Neolithic to the Classical Greek period.

Michelet, Dominique and Charlotte Arnould (CNRS, France)

[257] *Elites in the Rio Bec region: producing crops ... and great houses as well*

All Maya Classic sub-royal elites may not have shared interests with royal elites. Situations probably existed where elite interactions were intended not so much to enhance the king power, as to develop strategies in benefit of sub-royal groups. In the Rio Bec region, archaeological, iconographic and epigraphic data indicate that kingship has been, for most of the time, weakly articulated while a regional, mainly agrarian elite was present and active. Serving the strategies of its factions, invention and diffusion of architectural ideas over a wide region created for them highly visible and prestigious houses.

Michelet, Dominique [14] see Arnould, Charlotte

Michlovic, Michael [221] see Holley, George

Middleton, Andrew [74] see Stacey, Rebecca J.

Mierendorf, Robert (National Park Service) and Franklin Foit (School of Earth and Environmental Sciences, Washington State University)

[105] *9,000 years of earth, wind, fire and stone at Cascade Pass*

A stratified record of human occupation, tephra deposition, and soil accretion is revealed from preliminary test excavations at 45CH221, on an alpine saddle on the Cascade Range crest. Geochronology spans ca. 9000 cal. years BP, based on seven 14C age estimates on wood charcoal and on five primary tephra layers sourced to four Cascade Range volcanoes. Four intact hearths in the sequence variously date between 8,800 and 2,010 cal. years BP. Cultural components reveal pre-3800 BP microblade and flake-core tools and post-3800 BP resharpening flakes from biface tools. Cascade Pass has yielded the first well-dated, early Holocene (pre-Mazama) cultural component of Pacific Northwest indigenous use of high mountain terrain.

[306] *Discussant*

Milanovich, Sean (Agua Caliente Band of Cahuilla Indians) and Patricia Tuck (Agua Caliente Band of Cahuilla Indians)

[212] *Updating the Andreas Canyon National Register District*

This poster focuses on the update of the Andreas Canyon National Register District which was listed on the National Register in 1973. It incorporates the historic Rincon Village site that was occupied by the Panikum lineage until the early 20th century. The District is an important part of the Tribe's cultural heritage and identity. Rincon Village is one of very few village sites in the Coachella Valley that has not been heavily impacted by modern development. Since its listing, the Agua Caliente Band of Cahuilla Indians have developed a Tribal Historic Preservation Office to manage cultural resources on the reservation.

Milbrath, Susan (Florida Museum of Natural History)

[136] *Portals and Passageways to the Underworld*

Entry to the underworld is represented in a great variety of forms in Mesoamerican imagery, ranging from flowery cave portals to fearsome Earth Monster jaws. Some of the more interesting scenes allude to narrative events involving multiple deities. Imagery of the underworld journeys of celestial beings helps recreate a narrative sequence that reflects the central principals of Mesoamerican cosmology.

Milek, Karen (Department of Archaeology)

[28] *The House at Hrísbru in its Icelandic Context: Geoarchaeology and the Use of Space*

The Viking Age house that was excavated at Hrísbru in 2006-7 was sampled for geoarchaeological analysis in order to enhance the understanding of the sequence of floor deposits and the use of space in the building. This paper summarises the results of the micromorphological analysis of the floor deposits, and discusses their implications for the

interpretation of the building as a whole. It then places the house at Hrísbúr in its wider social context by comparing its size and internal organisation to the corpus of Viking Age residential buildings in Iceland.

Milic, Marina, Boban Tripkoviæ (University of Belgrade) and M. Steven Shackley (UC Berkeley)

[241] *Balkan Perspectives: A New Sourcing Study of Obsidian from Prehistoric Serbia*
While obsidian characterization studies in the Mediterranean and Near East have enjoyed a renaissance in the past decade, little work has been undertaken on Balkan artifacts since the mid 1980's. Our study addresses this problem through an EDXRF analysis of 185 samples from Serbia, its aim to map 'foreign' relations through time, by community and region, and to document how these obsidians were consumed. Material was sampled from 30 sites (from throughout the country) spanning the 7th – 4th millennium BC, from the Mesolithic (Lepenski Vir), via Early-Middle Neolithic (Starčevo culture) and Late Neolithic (Vinča culture) to Eneolithic.

Milic, Marina [276] see Carter, Tristan

Miljour, Heather (Statistical Research, Inc.)

[273] *Faunal Exploitation by Prehistoric Coastal Groups in the Sonoran Desert*
Subsistence remains recovered from shell midden sites along paleochannels of the lower Río Sonoyta at Estero Morua indicate that prehistoric coastal groups in the northeastern Gulf of California hunted a variety of terrestrial fauna and avifauna in addition to fishing and collecting shellfish. A diverse archaeological faunal assemblage suggest these activities may have occurred over prolonged seasonal harvesting periods and involved extended social groups. This presentation summarizes the faunal assemblage, identifying the locations and ranges of resource procurement and methods of processing. It also provides an interpretation of local prehistoric behavior along the lower Río Sonoyta.

Miljour, Heather [304] see Klucas, Eric E.; [304] see Wegener, Robert M.

Millaire, Jean-Francois (Department of Anthropology)

[73] *Beware of Highlanders: Coast-Highland Interactions in the Virú Valley, Peru*
Over the last decade, the study of inter-valley interactions has largely structured research conducted along the Peruvian north coast, leading archaeologists to study warfare, trade and cultural life in terms of north-south movements of populations, goods and ideas. Although coast-highland contacts are usually acknowledged, they rarely are considered to have shaped local cultural developments. Our work in Virú seems to challenge this view, however. Surveys reveal that the settlement pattern was designed with coast-highland interactions in mind, and the results of excavations confirm the key role of east-west relations for Virú population throughout the first millennium of the present era.

Millard, Andrew [48] see Hughes, Susan S.; [117] see Britton, Kate H.

Miller, Alex [302] see Meierhoff, James W.; [302] see Hetrick, Chris

Miller, Alexandra (Arizona State University), C. Michael Barton (Arizona State University), Sarah McClure (University of Oregon) and Steven Schmich (Arizona State University)

[153] *Climate Change and Socioecological Dynamics in Eastern Spain*

The period encompassing the terminal Pleistocene through mid-Holocene spans the most far-reaching economic and social changes experienced by modern humans. It also brackets some of the most extreme changes in global climate to have affected our species. New high-resolution archaeoclimatic modeling, integrated with two decades of intensive fieldwork offers fresh insights into human responses to environmental changes in eastern Spain. While the severity of climatic parameters limited human adaptations, the social context in which they took place conditioned the response significantly. We present case studies for the terminal Paleolithic, transition to agriculture, and beginnings of social complexity.

Miller, Alexandra [224] see *Hill, Brett*

Miller, Barbara [151] *Discussant*

Miller, Bruce (University of British Columbia)

[18] *Sociocultural Anthropology and Archaeology*

Archaeology is characterized by evolving relationships with First Nations and bureaucrats, and with socio-cultural anthropologists. It's time to enhance this relationship: practitioners draw on the same social theory and interact with the same Indigenous people. The rediscovery of landscape and memory by socio-cultural anthropology confirms the central role of field research and the significance of oral tradition. Further, archaeologists and social cultural anthropologists address the same set of issues in legal settings. Finally, the two disciplines face similar critiques common to field-based disciplines. Illustrations are drawn from my work over three decades with Coast Salish communities.

Miller, Christopher (University of Tübingen) and Paul Goldberg (Department of Archaeology, Boston University)

[269] *The Middle to Upper Paleolithic Transition in the Swabian Jura, SW Germany: a Geoarchaeological Perspective*

The nature and timing of the appearance of the Swabian Aurignacian is important for understanding how Modern Humans replaced Neanderthals in Central and Western Europe. Recent chronostratigraphic studies at the Swabian cave sites of Hohle Fels and Geißenklösterle have suggested that the Aurignacian appeared relatively early, approximately 40,000 cal. BP in a region already depopulated by Neanderthals. Recent results from a micromorphological study of the transition at these two cave sites frames the question within a site-formation model. This approach permits analysis of geogenic and anthropogenic processes and shows clear stratigraphic boundaries between associated deposits.

Miller, D. (University of Arizona) [236] *Discussant*

Miller, D. Shane [42] see *Smallwood, Ashley M.*

Miller, Debbie [18] see *Hoffmann, Tanja*

Miller, Heather [96] see *Hoffman, Brett C.*

Miller, Joseph (University of Missouri - Columbia)

[50] *Bison and dog at the Dirt Lodge*

The Dirt Lodge was a significant Yanktonai-Sioux village in the James River Valley of eastern South Dakota. A zooarchaeological analysis of the animal remains from the site will allow archaeologists to better understand how northern Plains populations made use of Bison in habitation sites as opposed to the well documented kill sites. A smaller, but significant, portion of the animal bone assemblage was made up of canid bones. The presence of a large number of canid bones may be an indicator of feasting and indirectly suggest that the Dirt Lodge was the location of the Dakota Rendezvous.

Miller, Katherine (School of Human Evolution and Social Change Arizona State University), E. Wyllis Andrews V. (Tulane University), Jane Buikstra (Arizona State University), Jennifer Piehl (Sul Ross State University) and Kelly Knudson (Arizona State University)

[177] *Identifying Maya Elite Residential Mobility through Strontium Isotope Analyses at Late Classic Copan, Honduras*

This paper reports a bioarchaeological analysis of $^{87}\text{Sr}/^{86}\text{Sr}$ values for fourteen elite individuals from the royal residential patio group at the archaeological site of Copan, Honduras. When compared to a baseline of modern Copan faunal remains and known geological $^{87}\text{Sr}/^{86}\text{Sr}$ values, migrants were successfully identified. The results suggest that during the final years of dynastic rule at Copan outsiders moved into the royal residential

compound, thus underscoring the dynamic nature of socio-political relationships during the Late Classic on the southern periphery of the Maya realm.

Miller, Kevin [7] see La Jeunesse, Roger

Miller, Laura (Joint POW/MIA Accounting Command/Central Identification Lab)
[296] *Herd strategies and urban trajectories in the Indus Civilization: Cattle secondary products*

Urban subsistence economies, the role of specialist producers, and diversified provisioning strategies are considered in light of faunal evidence for cattle secondary products exploitation in the Indus Civilization. Recent zooarchaeological research at the urban center of Harappa documented significant shifts in cattle husbandry strategies between the late 4th-early 3rd millennium B.C. as the site developed into a large urban center. As seen through traction pathologies (markers of occupational stress) and slaughter profile patterns, significant shifts in animal husbandry occurred, hypothesized to be a result of increasing regional socio-economic integration, intensification, and specialization trajectories.

Miller, Melanie (University of California, Berkeley), Amanda Logan (University of Michigan), Christine Hastorf (University of California-Berkeley), Katherine Moore (University of Pennsylvania) and Lee Steadman (University of California-Berkeley)

[244] *Food Traditions and Cooking Practices in the Formative Settlements*

Food cooking and serving organize household material culture, although discard and diagenetic processes may blur these patterns. Middens and structures in Formative sites yielded a wide range of material evidence for cooking and the presentation and consumption of food, including lithic wear and vessel shape, size, paste and sootng patterns, reflecting cooking tasks and serving traditions. Stable isotopes and organic residues on cooking surfaces and teeth provide direct evidence for ingredients and combinations. Plant and animal remains indicate food items, fuel and firing practices.

Miller, Myles [126] see Tupa, Amy Lynn; [53] see Ward, Christine G.

Miller, Sarah [293] see Pritchard, Christy W.

Miller, Susanne

[278] *Owl Cave: The Microfaunal Record*

In addition to extensive megafaunal assemblages, excellent bone preservation at Owl Cave (10-BV-30) has offered the opportunity to recover and analyze a full sequence of microfaunal remains resulting from millennia of contributions by raptors, carnivores, scavengers, and natural mortality in the rockshelter. Species list and paleoecological interpretation for microfauna from the upper strata of Owl Cave have been published. With microfaunal recovery via systematic fine-mesh water screening during subsequent excavations, this paper overlaps with and extends that record into the period 8,000 – 10,500 BP, allowing comparison with other archaeological sites and faunal trap caves on the Snake River Plain.

Miller-Antonio, Sari (Cal State Univ Stanislaus) and Lynne Schepartz (Florida State University)

[75] *Taphonomy, life history, and human exploitation of Rhinoceros sinensis at the Middle Pleistocene site of Panxian Dadong, Guizhou, China*

Panxian Dadong, a large karst cave in mountainous western Guizhou province, has a rich mammalian fauna in association with stone artifacts and human remains from the late Middle Pleistocene. This study focuses on the sample of Rhinoceros sinensis. Skeletal elements show a predominance of foot and lower limb bones while the dental mortality profile is characterized by a high frequency of young, prime aged adults. There is little evidence for the role of non-human carnivores or natural agencies in the formation of the assemblage. Instead, it appears that hominin activities were responsible for the unexpected prevalence of prime age adults.

Millington, Chris [308] see Kennedy, John D.

Mills, Barbara (University of Arizona) [283] Discussant [199] Discussant [16] Discussant

Mills, Peter (University of Hawaii Hilo)

[156] *Using non-destructive Energy-Dispersive X-Ray Fluorescence (EDXRF) to discriminate between closely related basalts: a case study from Hawaii Island*
Recent studies of the Mauna Kea Adze Quarry Complex on Hawaii Island demonstrate that non-destructive Energy-Dispersive X-Ray Fluorescence (EDXRF) can be used to differentiate the basalt from other major quarried basalt sources in Hawaii. A more challenging problem is whether or not it is possible to discriminate Mauna Kea adze quarry basalts from scattered streambed sources in the Hamakua Volcanic Series, of which the Mauna Kea quarry is a part. Comparative EDXRF results are presented for the Mauna Kea quarry and a variety of other adze-quality basalts from the Hamakua Volcanic series.

[156] *Co-Organizer*

Mills, Peter [156] see Lundblad, Steven P.; [156] see Kahn, Jenny G.; [156] see Oxley, Mark W.; [156] see Stevenson, Christopher M.

Millward, Georgia [223] see Kaestle, Frederika

Millward, Sara (Eastern New Mexico University) and Erin Brown (Eastern New Mexico University)

[89] *Preliminary Investigations of the Thermal Features Found in the Black River Area*
The Black River Project (2006-2007) is located in extreme Southeastern New Mexico. The survey area covers approximately 3000 acres, contains 29 sites, and hundreds of thermal features which dominate the archaeological landscape. This study attempts to establish a pattern of continual use of the landscape by analysis of diagnostic artifacts and morphological variation between the thermal features. The archaeology of the Black River area has received little attention (Hogan 2006). With this poster we initiate a more intense study of the area, highlighting the importance of understanding the significance of often overlooked and rarely completely documented archaeological features.

Milne, S (University of Manitoba)

[72] *Take it Outside! Seasonality, Social Organization, and the Structure of Palaeo-Eskimo Domestic Space*

Archaeologists have long focused on understanding how the Palaeo-Eskimos organized their domestic space yet comparatively little is known about how changes in seasonality impacted the rigidity of activity area use. The Arctic warm season brings pleasant weather, abundant food, and time for visiting. These factors influenced peoples' moods and social organization, which impacted what and where people did things, and with whom. This paper presents data from an inland Palaeo-Eskimo site on Baffin Island that highlights how taking activities outside during the summer and fall created a more flexible domestic arena that was closely tied to the local landscape.

Milne, S. Brooke [145] see Brownlee, Kevin

Milner, George (Pennsylvania State University)

[134] *The Social Dimensions of Warfare in Eastern North America*

Two decades ago, warfare in precontact eastern North America received scant attention, and even its existence was barely acknowledged. Today, the situation is much changed, although the social dimensions of warfare are still incompletely understood. The integration of archaeological and osteological data, emphasizing the late prehistoric period (AD 500 onward), provides valuable perspectives on who was likely to become a casualty, the conduct and intensity of warfare, its impact on community well being, and its relationship to sociopolitical organization and belief systems. Limitations and biases in this information are assessed, as are research strategies designed to address those deficiencies.

Milner, George [129] see Hammerstedt, Scott W.

Mímisson, Kristján [246] see Palsdottir, Albina H.

Minichillo, Tom (University of Washington), Erin Thompson and Hope Williams (Arizona State University)

[149] *Variability in Early Middle Stone Age Lithic Technology in Southern Africa*
The Early Middle Stone Age (EMSA) has been defined as the part of that period occurring prior to MIS5e at ~125 kyr. Due to variations in global sea-level EMSA sites are rare in coastal settings; with no published, well-dated EMSA assemblages from the Cape coast of South Africa, the region that has provided much of the extant data on Middle Stone Age technology. This paper presents a lithic assemblage from Pinnacle Point, near Mossel Bay, South Africa, that is securely dated to MIS6. The relationship of this assemblage to other EMSA and MIS5 lithic assemblages and the implications for the evolution of our species are discussed.

Mink, Philip and Christopher I. Roos (University of Arizona)

[45] *Hidden Households: Archaeogeophysical Mapping of Mogollon Pithouses at the Hall Point Site (AZ P:11:300 [ASM])*

Pithouses are notoriously difficult to map based on their surface expressions. Large structures may evince shallow depressions whereas smaller structures and features may be unobservable without excavations. Inventory survey recorded 2-3 pit structures at the Hall Point Site. Additional mapping by the University of Arizona field school located four additional pit structures. Subsequent archaeogeophysical mapping using ground penetrating radar and magnetometry suggests that some of the possible structures are pithouses whereas others are extramural storage or work areas. This study demonstrates how geophysical survey can be used profitably to map subsurface features at Mogollon pithouse sites without excavation.

Minkin, Bruce [102] see Guerra, Rafael A.

Minnis, Paul (University of Oklahoma)

[34] *The Casas Grandes Regional System*

Charles Di Peso clearly saw Casas Grandes as having had a strong, direct, highly centralized, and wide reaching impact on contemporary populations in northern Mexico and the American Southwest. Research since the Joint Casas Grandes Project has provided new data to reconsider Di Peso's model. These data will be discussed as will the current views of the nature of the Casas Grandes polity and its regional influence.

Misarti, Nicole (Institute of Marine Science - UAF), Bruce Finney (University of Alaska-Fairbanks), Herbert Maschner (Idaho State University) and Spencer Wood (University of British Columbia)

[17] *Archaeology, (Paleo)Limnology, and (Paleo)Ecology: An interdisciplinary use of stable isotopes to correlate past and present ecosystems in the NE Pacific with human socio-economic dynamics*

Ecosystem changes are a primary IPY theme and an area where archaeology can address longer time scales than other disciplines. The Sanak Biocomplexity Project used stable isotopes from faunal remains found in archaeological middens, sediments from lake cores, and modern faunal collections to trace changes from 6,000 BP to the present in three marine ecosystems. We found that each ecosystem (open water/pelagic, coastal water/pelagic, and near shore/benthic) responded in a unique manner to changes in climate. Our interdisciplinary approach allowed for multiple and unifying lines of evidence that support collateral changes in ecosystems with changes in Aleut society.

Misarti, Nicole [289] see Maschner, Herbert

Miss, Christian (Northwest Archaeological Assoc), Kelly Bush (Equinox Research & Consulting International) and Robert Kopperl (Northwest Archaeological Associates, Inc.)

[60] *Linking the Delta and Crest: Archaeology of the Mid-reaches of the Skagit River and its Tributaries*

Established research within the Skagit River basin tends to focus on specific portions of the

river system, including its delta and the alpine fringes of its watershed. Further examination of its mainstem mid-reaches and the Baker River tributary, however, suggest that the rich archaeological heritage of these components may shed crucial light on the evolution of human settlement throughout the basin as a whole. Sea level change, delta progradation, and channel restructuring, along with tectonic and volcanic processes, changed not only the face of the landscape but the opportunities and constraints faced by Native Americans living on the Skagit River.

Miss, Christian [60] see Kopperl, Robert

Mitchell, Doug [221] see Vivian, Brian C

Mitchell, Douglas (SWCA Environmental Consultants) and Michael Foster (SWCA Environmental Consultants)

[273] *Introduction and Overview of Archaeological Work in the Puerto Peñasco Area*
Archaeological investigations have been conducted along the coast in the upper Gulf of California for over a century. Travelers, explorers, shell specialists, geologists, and university archaeologists have visited the Puerto Penasco area and made casual observations on the extensive shell middens. Not until recent years however have systematic interdisciplinary studies been done conducted to understand who used the area; the nature of the coastal resource exploitation; and how the physical environment affected this exploitation. This paper provides the historical context for this symposium, which includes papers on the archaeology, geology, paleo-ecology, and marine shell isotope studies.

Mitchell, Douglas [273] see Foster, Michael S.

Mitchell, Peter

[101] *Arid zone hunter-gatherers in southern Africa*

Building on earlier cultural-historical surveys of arid zone hunter-gatherers in southern Africa, this paper seeks to identify some of the key variables structuring the ecologies of the this region's dryland environments. Using archaeological case studies, it compares the subsistence-settlement records of Holocene hunter-gatherers in selected areas of Botswana, Namibia and South Africa. The main focus of these comparisons is the degree to which specialisation in procuring particular plant or animal resources may have been desirable, or was actually pursued. Other topics addressed include the impact of known climatic changes, the importance of coastal resources and access to domesticated livestock.

Mitchell, Peter [149] see Stewart, Brian A.

Mitchem, Jeffrey (Arkansas Archeological Survey)

[148] *Mississippian Influence on Weeden Island: Safety Harbor in the Greater Tampa Bay Region*

Sixteenth-century European accounts of the region from the Withlacoochee River to Charlotte Harbor describe chiefdoms that were in conflict and competition with the Calusa. The archaeological manifestation of these groups is called the Safety Harbor culture. Although Safety Harbor has Mississippian influences, it is not Mississippian in the strictest sense. This is due to the local environment, which precluded development of large-scale agriculture. There was no reason for the well-adapted Weeden Island peoples to change their lifestyle, so only some Mississippian elements were adopted. These are clearly seen in the Englewood phase (A.D. 900-1100).

Miyamoto, Kazuo (Kyushu University)

[226] *The immigration from Shandong Peninsula and acculturation in Liaodong Peninsula in the Longshang Period*

Based on the mortuary analysis of the Sipingshan cemetery of Liaodong Peninsula in China, I explain the immigration from Shandong Peninsula to Liaodong Peninsula in the beginning of Longshang period, the conjunction with local people and the process of

acculturation in the Liaodong Peninsula.

Moe, Jeanne and Linda Clark

[293] *What Do We WANT Them to Remember? Enduring Understandings and Archaeology Education*

What do we want students to remember about archaeology 20 years in the future? This question guided the development and evaluation of Project Archaeology: Investigating Shelter, a new national curriculum for upper elementary students. The development team began the process by asking both archaeologists and educators to distill the big ideas of archaeology into four enduring conceptual understandings. The curriculum was taught and evaluated in nine classrooms. This paper reports what students actually learned and how findings were used to improve curriculum design and professional development for teachers.

[293] *Co-Organizer*

Moe, Jeanne [293] see Clark, Joelle G.

Mohr, Gwen

[162] *Biological Relations Between Chaco and Early Classic Rio Grande Populations*

Biological distances were estimated for Chaco sample populations from the BC sites (A.D. 1030-1175) and Early Classic period sample populations (A.D. 1300-1500) from Sapawe in the Chama district of north-central New Mexico and Pottery Mound in the Lower Rio Grande of central New Mexico. It was hypothesized that, if Chaco populations were genetically similar to either or both of these populations, then this would be indicative of a shared population history and suggest that these later populations could have been descendants of Chaco groups.

Molin, Fredrik [159] see Wikell, Roger

Molist, Miquel [161] see Guerrero, Emma

Mollerud, Katy (University of Wisconsin-Milwaukee)

[26] "X" Marks the Spot: Sourcing Effigy Mound Ceramics from the Horicon Site using X-Ray Fluorescence

Excavations at the Horicon site in southeastern Wisconsin have produced a Late Woodland/Effigy Mound ceramic assemblage. This study represents an initial attempt to identify Effigy Mound clay sources by coupling an attribute analysis with the use of x-ray fluorescence (XRF) technology. The research was designed to identify chemical signatures of Effigy Mound ceramics at the Horicon site and compare these data to local and regional clay sources.

Molto, Joseph (University of Western Ontario)

[256] *Skeletal morphogenetic anomalies and ancient DNA: A new model for testing familial relationships in skeletal samples*

The importance of establishing 'intrasite' relationships in archaeological contexts is germane in terms of understanding bio-social dynamics of past societies. This paper outlines a model, using anomalous discontinuous skeletal traits and mtDNA to infer intragroup familial relationships in skeletal samples. A case study from Egypt illustrates the application of the model. The statistical analysis shows that a highly heritable morphogenetic marker is associated with a mtDNA lineage that is indigenous to the Oasis over several hundred years, traversing the Ptolemaic and Roman periods. Thus this model integrates morphogenetic and molecular data strengthening their value in paleogenetic research.

Monaghan, John (University of Illinois at Chicago) [134] Discussant

Monks, Gregory (University of Manitoba)

[175] *Optimal Foraging vs. Costly Signaling: the case of Nuu-chah-nulth whaling*
Optimal Foraging Theory (OFT) and Costly Signaling Theory (CST) are often presented as

mutually exclusive conceptual frameworks. This paper examines both OFT and CST for the contributions that each can make to understanding the practice of open ocean whaling among the pre-contact Nuu-chah-nulth (Nootka) of Canada's west coast. Conceptual and methodological issues relating to the properties of "the forager" and their archaeological remains are explored, and these issues are considered as they apply to Nuu-chah-nulth whaling. It is concluded that all four major subdivisions of OFT and current formulations of CST offer complementary understandings of Nuu-chah-nulth whaling.

Monnier, Gilliane (University of Minnesota)

[29] *A new perspective on stone tool morphology and standardization in the Paleolithic, with implications for "mental templates"*

It is widely accepted that Upper Paleolithic retouched tools are more frequently standardized than Middle Paleolithic ones. Furthermore, many believe this reflects "clearer" mental templates on the part of the Upper Paleolithic tool-makers (e.g., Mellars 1989; but see Marks et al. 2001). Recently, I have proposed (Monnier 2006) that overall stone tool morphology is unimportant for most uses. The exception, I argue, are those tasks for which a portion of the tool must be dimensionally restricted in order to perforate, or to fit into a haft. This hypothesis is tested on ethnographic and prehistoric assemblages.

Monroe, Cara (UCSB Anthropology and Washington State University- Biological Sciences) and Brian Kemp (Washington State University)

[20] *Mitochondrial DNA analysis provides evidence for an ancient southwest population expansion.*

In a study of mitochondrial DNA variation in Native American populations from the American Southwest a clear signature of an in-situ population expansion was detected and dated to approximately 2,000 YBP. This is in accord with archaeological evidence of a demographic transition following the introduction of cultigens from Mesoamerica. The present study adds data from recently studied Yuman speaking populations from the Southwest, California, and Baja California, Mexico, as well as incorporating computer simulations to clarify the extent and exact nature of the expansion. This expanded study has important implications for the linguistic, biological, and archaeological history of the region.

Monroe, J. Cameron (Department of Anthropology)

[182] *Town and Countryside in Dahomey: Trade, Politics, and Transforming Urban Landscapes in Atlantic West Africa*

Historical archaeologists have long explored the lives of Africans and their descendants within colonial contexts. One of Merrick Posnansky's enduring legacies has been a push towards understanding the broader impacts of Atlantic commerce on West African societies removed from immediate European control. This paper explores the nature of transforming urban landscapes in the Kingdom of Dahomey during the Atlantic Era. Regional archaeological and ethnohistorical data from Cana, located in Dahomey's heartland, are examined. These highlight how the interrelated forces of Atlantic commerce and Dahomean royal political agendas resulted in dynamic and heterogeneous urban landscapes in the pre-colonial era.

[182] *Co-Organizer*

Monteleone, Kelly

[298] *A warm current: El Nino events in the area around Lake Titicaca (Peru/Bolivia) from A.D. 600 and 1400.*

El Nino events have been blamed as the instigating cause for the collapse of the Tiwanaku society along the shores of Lake Titicaca. But how robust is the data that such claims are made upon? Do other environmental indicators from around the world agree with this theory? Through statistical inference of the published data, this paper looks at the reliability of the proposition that an increase in El Nino events caused the collapse of the Tiwanaku society.

Montgomery, Janet [35] see Lee-Thorp, Julia A.

Montoya, Janet (Arizona State University)

[277] *The Changing Faces of Cerro Portezuelo*

Figurine styles ranging from the Preclassic to the Postclassic periods were identified among the approximately 600 fragments recovered during the excavations at Cerro Portezuelo in the 1950s. As a result of recent investigations presented in this session, the figurines can now be associated with ceramics and other artifacts recovered during the excavations. Re-examination of the figurine collection in light of this new data not only provides insight into Cerro Portezuelo's E2 and its relationship with Teotihuacan, Tula, and the Aztec empire throughout its long period of occupation but also enhances our understanding of figurine chronology in the Basin of Mexico.

Montoya, Janet [180] see *Sato, Etsuo*

Moore, Christopher [129] see *Henry, Edward R.*

Moore, Christopher R. [99] see *Whyte, Thomas*

Moore, Katherine (University of Pennsylvania)

[296] *Risks and Rewards in Early South American Camelid Pastoralism*

South American domesticated camelids (ancestors of today's llamas and alpacas) presented a package of biological and behavioral potential different from that provided by most Old World domesticates. Camelids are not milked, ridden, or harnessed to plow. Low reproductive rates, harsh weather, and disease must have hampered intensification upon early herds. Archaeological evidence from Andean sites for the use of meat, wool, transport capacity, and dung indicates the close relationship between pastoralism, agricultural production, and social complexity. Diversity between regions and within regions suggests local levels of pastoral decision-making for Formative periods; data for later periods of expansive empires are scarce.

Moore, Katherine [244] see *Capriles, Jose M.*; **[244]** see *Miller, Melanie J.*; **[244]** see *Bruno, Maria C.*

Moore, Patrick (UBC)

[52] *Sto:lo Spatial Terminology*

The Halq'emeylem language of the Salish language family, spoken by Sto:lo people of the Fraser Valley, British Columbia, uses extensive terminology orienting individual movement through culturally structured spaces. This poster illustrates the long-term integration of cultural concepts derived from everyday practice with linguistic terminology focusing on two subsystems: the orientation of individuals with respect to dwellings and work areas and their orientation relative to a wider system that aligns buildings, villages, and travel routes with the Fraser River. The poster uses information provided by Sto:lo elder Mrs. Elizabeth Herrling as well as earlier written documentation.

Moore-Shay, Laura [49] see *Kuijt, Ian*

Moragne, Steven [24] see *Rieth, Christina B.*

Morales, Juan V. [69] see *Aura, J. Emili*

Morales, Reinaldo (University of Central Arkansas)

[71] *Gendered Display: Warfare Iconography in the Rock Art of Northeast Brazil*

Warfare and weapon iconography is common in Brazilian rock art. In the Northeastern states of Bahia, Piauí and Rio Grande do Norte this imagery ranges from dynamic and brutal group scenes to stoic, elaborately decorated anthropomorphs. In some of the more sophisticated compositions the weaponry is prominently displayed yet there is no suggestion of action, a hunt, attack or otherwise. This sort of display iconography is found in other media elsewhere in prehistoric South America, and is reflected in the living arts of the Brazilian Indians. Considering the broader cultural landscape, the rock art may have worked as gendered display.

Moran, Kimberlee (Forensic Outreach)

[70] *Forensic Archaeology: Theory & Practise*

The formalisation of forensic archaeology into the many sub-disciplines of both forensic science and archaeology has spawned a large number of university classes and degree programmes in the UK and US. The overwhelming interest in forensic science has, in part, fuelled this surge. However, the structure and quality of what is on offer varies widely. This paper looks to examine how the theory of training the next generation of forensic archaeologists compares with the reality in practise. What does the future hold for forensic archaeology and does the education available meet those needs?

Moreno, Teresa (Arizona State Museum), Alyce Sadongei (Arizona State Museum) and Nancy Odegaard (Arizona State Museum)

[65] *Integration of Tribal Consultation to Help Facilitate Museum Conservation and Collections Management*

Tribes with cultural affiliation to the Arizona State Museum pottery collections were invited to three consultation workshops between 2001 and 2006. Additional gatherings took place in local tribal communities. These consultations were held to specifically seek advice and recommendations on the impending move of the pottery collection from its disparate storage locations to one new storage vault. Topics regarding appropriate care, treatment and disposition of NAGPRA related and other cultural items in the ceramic collection were reviewed. Through this consultation process, guidelines regarding the relocation and management of pottery were developed to reflect the cultural concerns articulated by tribal representatives.

Moreno-Cortes, Jose (University of South Florida), E. Christian Wells (University of South Florida) and Karla L. Davis-Salazar (University of South Florida)

[289] *Applying Archaeology to Agroecological Development in Honduras*

In this paper we discuss our work in the Palmarejo Valley of northwest Honduras. We are investigating the social, ecological, and economic impacts of globalization on prehispanic and modern agrarian communities. Our goal is to work with local farmers and development agencies to model sustainable resource management strategies using archaeological knowledge. In Palmarejo, prehispanic settlement patterns suggest that residences dispersed along quebradas were organized into resource user groups or "quebrada communities." Geoarchaeological and paleoecological data suggest that quebrada communities may have been one scale at which Palmarejo inhabitants were organized to effectively manage key ecological features of the landscape.

Morett, Luis [158] see *Frederick, Charles D.*

Morett A., Luis [32] see *Arroyo-Cabral, Joaquin*

Morgan, Chris (Far Western Anthropological Research Group), Fahu Chen (Lanzhou University), Loukas W. Barton (University of California, Davis), Robert Bettinger (University of California, Davis) and Wang H (Gansu Province Cultural Relics and Archaeological Research Institute)

[22] *The Foraging To Farming Sequence at Dadiwan and Implications for the Adoption of Agriculture*

The independent evolution of agriculture is universally preceded by a period of intensive wild plant gathering, save in North China, where millet agriculture appears to develop without intensive foraging antecedents. Excavations at the Dadiwan site, Gansu Province, PRC, reveal a 60,000-year record of occupation spanning the transitions from low level to intensive foraging, and from foraging to incipient, and finally intensive agriculture. This sequence indicates that North China's Neolithic is not an anomaly but rather evolved, as elsewhere, from intensive hunter-gatherer adaptations, characterized at Dadiwan by miniature toolforms suggesting an intrusive technology aligned with the North China microlithic.

Morgan, David (National Center for Preservation Technology and Training) and Kevin C. MacDonald (University College London)

[68] *Material Perspectives on Late Colonial Ethnicity on the Louisiana Frontier: Architecture and Pottery at the 1786-1816 Coincoin Plantation*

Marie-Thérèse Coincoin is a founding figure for Louisiana's Cane River Creole community. Of African descent (or birth) and once enslaved, between 1786 and 1816 she ran a plantation using Louisiana-born, Kissi, and Bakongo slaves. A six-year study has revealed the remains of her plantation's residences and landscape features. The African-style rammed earth architecture contrasts sharply with other facets of material culture derived predominantly from interaction with nearby Native Americans and Euro-American traders at Natchitoches. The material remains of Coincoin's world provide tantalizing clues about how this ethnically African and Creole plantation operated on the multi-ethnic frontier.

[151] *Discussant*

Morgan, Molly (Vanderbilt University), Jaime Awe (Institute of Archaeology, NICH) and Jon C. Lohse (Center for Archaeological Studies, Texas State University)

[181] *Preceramic Occupations in Western Belize and Implications for Early Maya Development in the Belize River Valley*

Evidence of preceramic occupations in Western Belize has increased dramatically over the past few years. A number of Archaic points have been reported from different settings, suggesting widespread hunter-gatherer adaptations, and new data reveal Late Archaic horticultural practices similar to those documented elsewhere. Radiocarbon data indicate that preceramic populations inhabited this region while settled villages were appearing in other parts of Mesoamerica. This paper explores the implications of these emergent data for the understanding of the transition to settled, village life and the appearance of early pottery associated with terminal Early Formative Maya in the Belize River Valley.

Morgan, Renee [24] see Rieth, Christina B.

Morgan, Sarah (WCRM Inc.)

[89] *An Apache Mescal Pit on the New Mexico-Arizona Border*

Recent investigations at a large Apache succulent roasting facility (at site LA 129571) in the Peloncillo Mountains of southwest New Mexico present an opportunity to compare excavation data with ethnographic models of Apache agave roasting. Excavation results including site structure, feature morphology, radiocarbon dates, and macrobotanical results are presented. The data are then compared with the ethnographic literature to provide insight into the role of site LA 129571 in Apache settlement and subsistence behavior.

Morgan, Sarah [46] see Jones, Joshua G.; [46] see Smith, Grant C.

Morgan, William

[72] *Essential Tendencies in the Architecture of Precontact Eastern North America*

Earth architecture represents the oldest, most widespread and most enduring architectural tradition of precontact eastern North America. This paper examines several essential tendencies in the architectural forms of four well-known sites. Poverty Point consists of a complex of earthworks in the Lower Mississippi Valley, as does the Hopewell ceremonial center at Newark, Ohio. At about AD 1250, Cahokia, the largest urban complex in North America, comprised some 120 major earthworks. By the 1500s the island city of Calos in southwest Florida consisted of an extraordinary canal flanked by boat basins, mounds, and residential and boat building areas.

Moriarty, Matthew (Tulane University Department of Anthropology), Antonia Fojas (Williams College), Christina Halperin (University of California, Riverside) and Erin Kennedy Thornton (University of Florida)

[233] *Shifting Community Identities: Political Dynamics and Community Integration in the Motul de San José Area*

Recent treatments of archaeological communities have emphasized their dynamic and situational qualities, whereby community identity is historically, spatially, and contextually contingent. The emphasis on communities as flexible, socially constructed units has, in

turn, focused attention on the identification of social practices through which notions of community were established and reified. In this paper we utilize data from Motul de San José, Trinidad de Nosotros, and other sites in the MSJ area to provide a historical perspective on community identity formation and to highlight some of the practices through which concurrently operating communities were integrated within an emergent Maya polity.

Morin, Bode [30] see Scarlett, Timothy James**Morin, Eugene (Trent University) and Despina Liolios (Université Paris X)**

[269] *Bone tool technology and animal food procurement at Saint-Césaire: Some thoughts about site function and settlement patterns during the Middle to Upper Paleolithic transition*
The study of the Saint-Césaire fauna led to the identification of a number of artifacts indicative of bone tool manufacture. The majority of these artifacts are on reindeer antlers and are attributed to the early and evolved Aurignacian. These bone tools are here discussed in light of the subsistence strategies identified at the site. These data are then used to interpret site function and settlement patterns during the Middle to Upper Paleolithic transition.

Morin, Jesse and Jon Sheppard (Antiquus Archaeological Consulting)

[172] *Potential Ritual Structures at Keatley Creek on the Canadian Plateau*
Hayden (1998; Hayden and Adams 2004) has suggested that some of the peripheral housepits at the Keatley Creek are not domestic winter residences, but were instead used for ritual purposes by shamanistic or secret society activities. Two of these late Kamloops Horizon potential ritual structures were nearly completely excavated by the authors to further investigate this hypothesis. We suggest that these potential ritual structures are much more similar to each other than they are to any completely excavated domestic housepit at the site. These ritual structures are most notably distinguished from domestic structures by remote occulted locations, evidence for feasting, extremely low artifact and debitage counts, high quantities of fish bone, and high proportions of extremely rare fauna artifact types. Ethnographic and artifactual evidence support Hayden's hypothesis that these housepits were used as meeting places for organizations approximating secret societies.

Morley, Mike [259] see Woodward, Jamie**Morris, Margaret**

[160] *Interacting with the landscape: A GIS investigation of trends across Eastern Europe from the Neolithic through the Copper Age*
The rich archaeological record of Eastern Europe provides archaeologists with numerous opportunities to study not only unique cultures and events of the past, but provides a solid foundation of information that can successfully be used to explore social trends on a wide regional and deep temporal scale. This paper takes advantage of this as it investigates changes in and interaction with social landscapes during the Neolithic and Copper Ages. Utilizing geographic information systems (GIS) and landscape approaches, this paper presents results of an effort to consolidate environmental and known cultural information in order to extrapolate and identify past social landscapes.

Morris, Zoe, Ginesse Listi (Louisiana State University) and Mary Manhein (Louisiana State University)

[91] *Quantitative and Spatial Comparison of the Microscopic Bone Structures of Deer (*Odocoileus virginianus*), Dog (*Canis familiaris*), and Pig (*Sus scrofa domesticus*)*
Species-specific variables exist that change the structure of cellular bone tissue. This presentation explores microscopic bone structures in terms of their area, density, and spatial location. Three quadrupeds ubiquitous across North America and commonly found in association with human remains were compared. The study analyzed the mid-shaft cross-section of the femora, humeri, and mid-thoracic ribs of deer, dog, and pig. Skeletal elements were divided into eight sections in which all histomorphometric measurements and observations were taken to explore the spatial organization of the structures. The implications for this study suggest future avenues of research for histologically

differentiating species in forensic and archaeological contexts as well as the benefits of incorporating spatial analysis of microscopic structures in differentiating species.

Morrison, Alex (Department of Anthropology, University of Hawaii, Manoa)

[11] *The Spatial Structure of Rapa Nui Settlement on the Northwest Coast: A Multi-Level Selection Approach to the Analysis of Community Organization*

Operating from a multi-level selection framework, Rapa Nui community organization is assessed. Communities were possibly congregated in small groups where the full range of functional activities was conducted by closely related individuals. A higher level of organizational complexity where large numbers of un-related people cooperate to produce the full features of the community is also possible. In the latter case, differentiated functional activities are localized and integrated within single distinguishable communities. The level of community organization is investigated by documenting redundancy of functional feature classes across the survey area. Community integration is analyzed by investigating the distribution of stylistic classes.

Morrison, Alexander [141] see Stark, Miriam T.

Morrison, Peter (Crane & Morrison) and Jeffrey Brain (Peabody Essex Museum)

[68] *The First English Buildings in New England: Structures at the Popham Colony, 1607-1608*

Established under the same legal authority as Jamestown, the Popham Colony, on the Kennebec River, Maine, constitutes the earliest English effort to plant a permanent colony in New England. Known from a colonist's detailed map and from archaeological excavations carried out from 1994 to 2005, the colony's buildings date to the period 1607-1608, making them the oldest known for any English habitation in New England. Evidence provides a remarkably clear picture of the colony's storehouse, and although less clear, information on the colonists' residences and buttery. Comparison will be made between these buildings' construction and England's regional building traditions.

Morrow, Trelle (University of British Columbia Okanagan)

[27] *Manufacturing Technology of Chinese Stoneware Food & Beverage Containers, 1850 - 2000*

Stoneware sherds from Chinese stoneware food and beverage containers have been recovered in many archaeological sites in the Pacific Region of North America, and whole vessels can be found in museums, antique shops and private collections. Archaeological documentation in the past has usually listed container types by function, with little attention given to materials or manufacturing processes. Research beyond such a nominal listing suggests an archaeological perspective more closely focused on the technology involved in manufacturing containers, a focus considered necessary for approaching such social constructs as division of labour for production intensification.

Mort, Janell

[232] *Plant Use in Non-Elite Moche Households*

This research compares the paleoethnobotanical data from two domestic contexts in previously uninvestigated areas of the Southern Pediment at Pampa Grande (a Moche Phase V site). Within complex societies, access to botanical resources varies between socio-economic groups and influences utilization of these resources. In contrast to many previous investigations of Moche subsistence, non-elite households are examined. Analysis of the botanical data, combined with other evidence, adds to our knowledge of domestic organization and social stratification since social status determines a group's ability to fulfill subsistence objectives. This study contributes to our overall knowledge of Moche subsistence practices and urban interaction.

Mortensen, Lena (University of Toronto Scarborough) [271] *Discussant*

Morton, Shawn (Department of Archaeology, University of Calgary)

[297] *Architectural Approaches to Caves*

In many parts of the Maya area, caves are abundant natural features, features that are

uniquely defined in the natural landscape by enclosed space. It has been observed that spatially, caves may be analogous to structures in the built environment. In addition, a number of scholars have demonstrated a symbolic relationship between these features and various forms of ancient Maya architecture. With this common ground in mind, this paper will direct architectural theories, concepts and methods toward the study of ancient Maya cave contexts.

Moseley, Michael [263] Discussant

Mosher, Matthew (University of Toronto) and Stefan Jones (Trent University)
[234] *Architecture and Authority: Late Classic Civic Layouts and Political Relations in the North Vaca Plateau*

Minanha's tenure as a dominant political entity in the North Vaca Plateau, Belize during the Late and Terminal Classic periods was exceptionally brief. However, during its short fluorescence as a seat of royal authority it embarked upon an ambitious architectural program which revealed its' knowledge of, and perhaps participation in, the larger political and ritual maneuverings of the Classic Maya city-states. While little is yet known of its socio-political articulation with its nearest neighbours, a preliminary understanding of such relations is gleaned through comparing its architectural and civic layout characteristics with those of other sites in the North Vaca Plateau.

Mosher, Matthew [234] see Zehrt, Claudia

Moss, Madonna (University of Oregon)
[230] *Pacific Cod, the "Cousin" of the Fish that Changed the World, with New Data from Coffman Cove, Alaska*

Pacific cod (*Gadus macrocephalus*) is abundant in many pre-contact archaeological sites located around the North Pacific. While the economic importance of salmon is widely known for the entire coast, the value of Pacific cod is largely unrecognized. In contrast, the Atlantic cod (*Gadus morhua*), one of the most popular food fishes in the western world, has been heralded as "the fish that changed the world." Procurement of Pacific and Atlantic cod are compared in general terms. Fish remains from Coffman Cove, Prince of Wales Island, provide a recent case study in the use of Pacific cod in southeast Alaska.

[288] *Discussant*

Mowrer, Kathy (SWCA Environmental Consultants)
[222] *Death and Identity: Mortuary Practices and Demographics at Five Sites in Ridges Basin*

This poster presents bioarchaeological data from five Pueblo I period (circa A.D. 700-900) habitation sites excavated in the course of the Animas-La Plata Project in Southwest Colorado. Demographic information and data concerning health, trauma, and life expectancy are presented, as well as mortuary patterns. Although these five sites are in close proximity to each other, burial practices appear to differ significantly from site to site. This poster will explore the potential relationships among burial practices and social identity, and propose that individuals may strive to maintain their identity through burial practices while conforming to a group identity with nearby neighbors.

Moyer, Alexandra (University of Minnesota)
[176] *Mirrors as Artifacts and Agents in Mortuary Contexts*

Bronze mirrors are commonly found in elite burials across temperate Eurasia. Archaeological interpretations tend to focus narrowly on mirrors as objets d'art or as lumps of precious metal—that is, as signifiers of socioeconomic status. However, in modern folklore and religious practice, mirrors are often imbued with symbolic and magical agency. An investigation into mirrors' role(s) in the polysemous actions we know as mortuary ritual is thus overdue. Interred mirrors from Britain, Japan, and Central Asia are examined in light of what they may have contributed to participants' experience of this ritual and of the dead person at its center.

Moyes, Holley (Wichita State University), Keith Prufer (University of New Mexico) and Mark Aldenderfer (University of Arizona)

[197] *Kayuko Naj Tunich: A Preclassic Mountain Shrine in Southern Belize*

Kayuko Naj Tunich is a cave site associated with a significant architectural group located 2.3km due south of the site core of Uxbenká. The cave and the structures are located 120m above the valley floor on a massive cliff with difficult access. The cave had been heavily looted, but still contained a contained stone architecture, a wooden canoe-like object, and a masonry crypt-like structure. This paper discusses the 2007 excavations. Data suggest that the complex is a Late Preclassic mountain shrine, the only one known of its kind, associated with the earliest settlement at Uxbenká.

Muckle, Robert (Capilano College)

[27] *From Bathhouse to Bunkhouse: The Archaeology of Two Early 20th Century Japanese Logging Camps in Western Canada*

Two logging camps from the early 1920s provide insight into the diversity of the Japanese immigrant experience in southwestern British Columbia. The sites are put into local context, and the artifact assemblages and features are described. Both sites were probably operated by the same company, and perhaps the same workers in different years, but the camp layouts were significantly different. Excavations at one camp revealed several small cabins and a bathhouse. The other camp had a layout more typical of the region, with a bunkhouse and central kitchen and eating area.

Mueller, Emily J. [120] see Epstein, Ethan A

Mulhern, Dawn (Fort Lewis College) and Mona Charles (Fort Lewis College)

[20] *Bioarchaeology of a Basketmaker II Site in Durango, Colorado*

The skeletal remains of thirty individuals were disinterred from the Darkmold Site, a Basketmaker II site north of Durango, Colorado from 1998 through 2006. Fourteen subadults and sixteen adults are represented, including seven males and seven females. The age structure of this population is comparable with other new world precontact sites, although the number of younger children is relatively high. Porotic hyperostosis was observed in six individuals, cranial trauma in three individuals and evidence for infection in five individuals. The adults skeletons are characterized by rugose muscle markings and platycnemias as well as osteoarthritis indicating a physically demanding lifestyle.

Mullen, Patrick [193] see Surovell, Todd A.

Mulligan, Connie [223] see Kimura, Birgitta K.

Mulrooney, Mara (The University of Auckland), Christopher Stevenson (Virginia Department of Historic Resources) and Thegn Ladefoged (University of Auckland)

[156] *Continuity or Collapse? Developing a Diachronic Model for Settlement and Land Use in Hanga Ho'ou, Rapa Nui (Easter Island): A Brief Progress Report*

The archaeological landscape on Rapa Nui contains a palimpsest of surface archaeological features, reflecting a long history of settlement and land use. This project aims to develop a diachronic model for settlement based on the spatial and temporal distribution of archaeological features in an 8 km² project area. This paper presents preliminary results of the chronometric dating of eight residential features using obsidian hydration dating and a GIS-based analysis of surface features. A model for settlement based on the preliminary findings is presented, which will be revised and tested using additional data collected during the next two years.

Mumford, Gregory (Department of Anthropology)

[108] *Toward recognizing and conserving cultural heritage sites in threatened regions*

In our age of rapid urbanization, increased cultivation, diverse national projects, and co-operative ventures intruding upon potential heritage sites, there are insufficient archaeologists and heritage protection officials to protect known and potential heritage sites across the globe. The current study focuses upon Egypt and proposes producing a representative selection of images identifying a broad range of prehistoric, pharaonic, and later items and features that would enable selected non-specialists to identify and avoid

potential archaeological sites. Such training would need to be selected, supervised, and incorporate anti-looting measures.

Muniz, Mark (St. Cloud State University)

[184] *Managing Risk on the Western Plains during the Cody Complex*

This paper addresses how Cody complex peoples managed risk around 9,000 RCYBP at the Jurgens and Hell Gap sites. Risk is defined in terms that are sensitive to the scales of individual tool design, tool kit composition, and entire site assemblage and takes into account variability in local resources. A high-magnification microwear analysis of over 500 artifacts was conducted to compare how Cody people actually used stone tools to what the risk management model predicted they should do based on an optimizing principle. The results shed new light on Cody behavior and further general theory for lithic technology.

Muñoz, María de los Angeles (Instituto de Investigaciones Antropológicas y Museo Arqueológico Universidad May)

[37] *Patrimonio Arqueológico, Usos Sociales Y Gestión Cultural: El Modelo De Incallajta, Bolivia*

La crisis de los estados nacionales y los fenómenos sociales actuales relacionados con el deseo de reforzar la identidad social usando el patrimonio cultural nos obligan a reflexionar sobre la ética en arqueología, del patrimonio, y usos sociales y temas de identidad. Se ha propuesto un modelo de gestión cultural mancomunada para el Monumento Arqueológico de Incallajta, como resultado de una experiencia práctica de investigación y promoción del sitio, que permite crear nuevas formas funcionales de gestión y promoción, para incidir directamente en la realidad social en el contexto actual y garantizando la futura protección y conservación sostenible del patrimonio.

Munro, Natalie (University of Connecticut)

[69] *Variability in Late Epipaleolithic (Natufian) Hunting and Game Processing Strategies in Northern Israel*

Natufian subsistence strategies are marked by the intensive exploitation of animal resources, in particular gazelle and small game such as tortoise, hare and partridge. Despite this important underlying similarity, some variation in hunting intensity, the types of animals hunted and how animals were utilized occurs amongst sites. This presentation examines the differences in faunal assemblages from four Natufian sites to determine the cause of this variability. It is concluded that variation in Natufian hunting and processing strategies are most closely linked to temporal period, but are also caused by differences in site type, location, and function.

Munson, Cheryl Ann (Indiana University), Dru E. McGill (Indiana University-Bloomington), Jocelyn C. Turner (Indiana University-Bloomington), Jonathan C. Criss (Indiana University-Bloomington) and Rexford C. Garniewicz (Indiana State Museum)

[129] *Overview of Investigations at the Late Mississippian Hovey Lake Archaeological Site (12-PO-10), Posey County, Indiana*

The Hovey Lake site, a large village of the late Mississippian Caborn-Welborn phase (A.D. 1400-1650), has been investigated since 1996 during the celebration of Indiana Archaeology Month in a combined program of research and public education. Small-scale excavations, guided by GPR survey and soil cores, have identified houses, storage facilities, and two hypothesized community features: plaza and palisade. Massive wattle and daub walls were built and rebuilt for bastioned palisades. Subsistence remains are dominated by maize, deer, and aquatic fauna, but beans and bison are also represented. Public education programs included 4th grade fieldtrips, an Excavation Open House, and more.

Munson, Jessica (University of Arizona) and Martha Macri (University of California, Davis)

[261] *Network dynamics of Classic Maya society: Epigraphic insights on network structure, growth, and decomposition*

Models of Classic Maya sociopolitical organization illustrate polarizing views on the

structure of ancient Maya society. Decentralized models emphasize the role of ritual and kinship in forming loose connections between semi-autonomous centers. Centralized models posit that sociopolitical integration was achieved primarily through political, economic, and administrative relationships which fostered recognizable settlement hierarchy. While these dichotomous models are critiqued for their static nature, their essential characteristics are readily quantifiable using network analysis. We examine the variable structure of Classic Maya society using epigraphic data and discuss different mechanisms of network growth and decomposition characterizing this dynamic period of history.

Munson, Marit (Trent University)

[228] *Rock Art, Ritual, and Landscape in the 14th-century Galisteo Basin, New Mexico*
This paper explores the nature of religious-based leadership in newly aggregated communities in the Northern Rio Grande Valley, focusing on rock art sites associated with large Classic (AD 1325-1550) pueblos in the Galisteo Basin. The location and layout of these rock art sites suggests that the number of artists and audiences members involved with rock art was increasingly restricted. At the same time, site function diversified, with petroglyphs and pictographs serving different purposes. I suggest that these changes relate to the emergence of small groups within each pueblo who had responsibility for specific religious knowledge or ritual activities.

Munson, Patrick (Indiana University) [258] Discussant**Murakami, Tatsuya (Arizona State University)**

[248] *Architectural Technology and Social Relations at Teotihuacan, Mexico*
Architecture provides a significant medium through which people negotiate their social relations. Construction quality is determined on the basis of series of technical choices from the procurement of resources, combining of materials, and techniques of production. The architectural structure is the cumulative aesthetic and practical product of complex interactions between material condition, technical choices, skills, and knowledge of producers, and social relations in which construction process is embedded. Using cases from Teotihuacan including the ceremonial precinct and surrounding apartment compounds, I will identify temporal and spatial variability in architectural technology and explore social implications of technological persistence and change.

Murakami, Tatsuya [180] see Lopez, Julieta M.**Murata, Satoru (Boston University)**

[84] *Wits Cah Ak'al: the First Hybrid Salt/Pottery Production Site in the Maya Lowlands?*
The first ever excavation at the site of Wits Cah Ak'al (WCA) in Belize, Central America, took place in the spring of 2007, yielding abundant evidence for ancient salt production in the form of briquetage. Surprisingly, the site also produced various circumstantial and direct lines of evidence that suggest it also was a locale for pottery production, making WCA a strong candidate for the first hybrid salt/pottery production site to be documented in the Maya lowlands. I will discuss the results of artifact and scientific (petrography, INAA, XRF, SEM) analyses designed in order to evaluate this hypothesis.

[282] Chair**Murata, Satoru [282] see McAnany, Patricia A.****Murphy, Eileen [291] see O'Donnabhain, Barra****Murphy, Joanne (University of Akron)**

[176] *Death and Destruction: The Role of the Dead in Pylos, Greece.*
Analysis of the mortuary data from the vicinity of the Bronze Age Palace of Nestor in southwestern Greece reveals that the relationship between the dead and the living was more complex than is generally assumed. A common understanding is that during the rise and zenith of the palatial society the mortuary system supported the rights of the privileged palatial elites; when the palatial economy collapsed the role of the mortuary system shifted

significantly. In contrast to this interpretation, my study shows that the most obvious changes in mortuary activity occurred before the destruction of the palace.

Murphy, Joanne [85] see Schepartz, Lynne A.

Murphy, Laura [60] see Kopperl, Robert

Murphy, Melissa (Department of Anthropology), Andrew Scherer (Baylor University), Elena Goycochea and Maria Fernanda Boza (Puruchuco-Huaquerones Project)

[131] *Identity, Violence and the Spanish Conquest at Puruchuco-Huaquerones, Peru*
A subsample of unusual burials from Puruchuco-Huaquerones (circa A.D. 1470-1540), Peru was unearthed in simple textile wrappings, positioned irregularly, and with few offerings. This treatment is distinct from the majority of other burials, where individuals were consistently wrapped, seated, and flexed facing the northeast. Because of the presence of perimortem skeletal trauma likely caused by Spanish weaponry, project members have hypothesized that these "atypical" burials post-date Spanish Conquest and were associated with the 1536 siege of Lima. Using dental metric data, we explore population structure and biological affinities within the cemetery in order to elucidate the identity of these individuals.

Murphy, Melissa [13] see Cock, Guillermo A

Murray, John (Blackfeet Tribe), Jesse Ballenger (University of Arizona), Maria Nieves Zedeno (University of Arizona), Nicholas Laluk Reitze (University of Arizona) and William Reitze (University of Arizona)

[10] *Taphonomic Assessment of the Kutoyis Bison Jump, Blackfeet Indian Reservation, Montana*

Limited excavations in the Kutoyis bonebed and in the floodplain below the kill reveal significant variation in the cultural and natural taphonomic processes at the site. Intentional burning and slope erosion has caused severe deterioration within the stratified bonebed where zooarchaeological information is most abundant and accessible. This poster explores the cultural motivations for burning and its taphonomic consequences.

Murray, John [10] see Laluk, Nicholas C.

Murray, Maribeth (Univ of Alaska Fairbanks), Holly McKinney (University of Alaska Fairbanks) and Jeanne Schaaf (Lake Clark Katmai National Park, U.S. National Park Service)

[230] *Stability and Change in the Fisheries of the Northern Gulf of Alaska*

We present new archaeological data on Holocene-era fisheries from the northern Gulf of Alaska. The focus is on the extent to which zooarchaeological data can be used to better understand feedbacks and linkages from fisheries to local and regional-scale changes in climate, sea level, and marine-food webs. We use osteometric and abundance measures in combination with stable isotope and total Hg (mercury) ratios in archaeological fish remains as the basis for explaining stability and change in the linked human/marine system along the south coast of the Alaska Peninsula and consider the implications of such detailed local studies for regional-scale interpretations.

Murray, Maribeth [194] see Strathe, Cody J.

Murray, Matthew

[206] *Walking Through The Past: 6000 Years Of Prehistory In Southeastern Germany*
In the heart of Bavaria, I am conducting archaeological reconnaissance and survey to systematically examine portions of a previously unexplored region between the Danube and Isar rivers. The landscape represents a small-scale "field laboratory" for the investigation of ideas about large-scale structural transformations during later prehistory. In this paper, I outline what we have learned about several "transitional" periods: 1) colonization of the landscape by early farmers; 2) expansive settlement of developed farming communities; 3) Bronze Age elites and the concentration of power; 4) coalescence of late Iron Age communities; and 5) Roman conquest and cultural hegemony.

Murry, John [10] see *Reitze, William Thomas*

Murtha, Tim [158] see *Silverstein, Jay E.*

Myers, Adrian (University of Bristol), Anna Nilsson (Atkins Heritage, UK), Cassie Newland (University of Bristol, UK) and John Schofield (University of Bristol, UK)
[174] *Contemporary Archaeology in Practice: Excavating Transit Van J641 VUJ*
Archaeology isn't only about ancient things, or about special things and places. Archaeology is—and always has been—about everyday objects and events. This poster presents an archaeology project with a difference. In July 2006 we surveyed and forensically excavated a recently abandoned 1991 Ford Transit van. Our objectives: to see what might be learned about a common contemporary place; to establish what archaeology can contribute to understanding how we use common places; and to challenge and critique the very nature of archaeology. This was a reflexive archaeology, of our time, of the discipline of archaeology—and inevitably—of ourselves.

Myles, Virginia (Parks Canada)

[65] *Parks Canada Agency (PCA) Archaeological Collection Review*
A review of Parks Canada Agency's archaeological collection is currently underway to assess the current state of its collection and to develop a strategy for the future. The archaeological collection consists of objects and records that have been amassed over the decades as the PCA system of National Historic Sites, National Parks and National Marine Conservation Areas has grown. Key to ensuring a healthy, relevant and accessible archaeological collection is the development and implementation of policy tools. In this paper I will discuss these various policy tools.

Nadel, Dani and Danny Rosenberg (The Zinman Institute of Archaeology, the University of Haifa, Mt. Carmel, 31905)

[115] *The Role of Manmade Stone Holes in Natufian Social Life*
Did the Natufians use stone mortars for processing cereals or acorns, although direct evidence is lacking? Recent studies of stone "mortars" (a misleading term), indicate that they are found in many Late Natufian sites (regardless of size/ecological setting), their variety is wide, some specimens have been deliberately pierced at their bottom, and in some cases a stone was firmly set into the shaft. Some could not have served for food processing (size and morphology) and at Raqefet cave they are directly associated with human burials. We suggest that many were manufactured as a communication means within the community level.

Nagaoka, Lisa (University of North Texas)

[169] *Differential carnivore damage by domesticated dogs in New Zealand: A potential indicator of resource availability and foraging efficiency*
Differential carnivore damage by domesticated dogs on faunal remains from New Zealand sites may be related to differences in resource availability across space and through time. Researchers have suggested that in areas where high-return vertebrate resources were not as abundant, dogs may have been fed scraps such as discarded bone. In more resource-rich areas, dogs may have had more access to meat, resulting in less carnivore damage on bones. Here this hypothesis is tested by determining the degree carnivore damage on seal and dog remains from four archaeological sites, which is then related to variability in availability of high-ranked resources.

Nagaoka, Lisa [57] see *Wolverton, Steve*

Nakamura, Carrie [276] see *Meskell, Lynn*

Napolitano, Matthew and Anna M. Semon (American Museum of Natural History)

[113] *Putting the Pieces Together: Synthesizing and Reconstructing the Pueblo Landscape at St. Catherines Island, GA*
Over the past half century, the American Museum of Natural History and other institutions

have excavated the Guale village (Pueblo) surrounding the 16th/17th century Spanish mission of Santa Catalina de Guale on St. Catherines Island, GA. Early excavations primarily focused on locating the Spanish mission structures, later excavations concentrated on individual house sites within the Pueblo. This paper presents the first synthesis of the Pre-Contact and Contact landscapes in the mission pueblo. Ceramic, spatial, remote sensing, and fine-grained topographic analyses utilized GIS to recreate these landscapes.

Nash, Lenna (University of Mississippi)

[47] *Analysis of Skeletal Remains from the Chalillo Dam Salvage Excavations of the Upper Macal River Valley, Belize*

Salvage excavations of nine sites from the Chalillo region recovered 19 burials, containing skeletal remains associated with tombs, crypts and simple internments. The osteological analysis of these skeletal remains demonstrates that the overall health indicators of this sample population are similar to that of elites from nearby sites. These Early Classic thru Late Classic burials came mainly from eastern shrine structures and several were found containing multiple individuals consisting of adult males, females and subadults of varying ages. These contexts are consistent with other cited examples of ancestor veneration among Classic period Maya elites.

Nash, Stephen (Department of Anthropology) and Chip Colwell-Chanthaphonh (Denver Museum of Nature & Science)

[25] *The Unintended Consequences of Archaeological Heritage Law*

A long period honoring the 100th anniversary of the Antiquities Act of 1906 has just ended. Celebrations occurred; critique was hard to find, and outright criticism was virtually nonexistent. The Antiquities Act is one among many heritage laws, all of which are imperfect documents that create unintended consequences worthy of examination. We offer an anthropological critique of these heritage laws and their unintended consequences. We also examine their impact on archaeological and ethnographic research and interpretation, as well as on the varied publics they effect.

Nassaney, Michael [68] see Malischke, LisaMarie

Nathan, Smiti (The George Washington University)

[160] *The Use of Geophysical and Geochemical Methods to Interpret the Okány 16 Site in Békés County, Hungary*

For the past several decades, archaeologists have been exploring non-intrusive methods that will allow them to understand a site prior to excavation. Numerous non-intrusive methods have been adapted from fields such as geophysics and geochemistry. The Körös Regional Archaeological Project has employed certain geophysical and geochemical methods to aid in the understanding and interpretation of sites in the region. This presentation will specifically examine and interpret the information generated by these methods during the summer of 2006 at the Okány 16 site. The results will be instrumental in suggesting possible avenues of exploration for the eventual excavation of the site.

Nauman, Alissa [49] see Kuijt, Ian; **[193]** see Goodale, Nathan B.

Navarro Castillo, Marx [5] see Paling, Jason S.R.

Ndiema, Emmanuel [241] see Dillian, Carolyn; **[149]** see Harris, J W K

Neal, Leticia (University of Nevada, Reno)

[214] *Lithic Scatters within a Lithic Landscape*

Intensive analysis and collection of lithic scatters enriches our understanding of both scatters and the landscape beyond what is observed during on-site analysis with no collection of lithics. Site 42Gr1374, near Moab, Utah is a landscape of cryptocrystalline silicates with numerous lithic reduction areas. A fine-grained analysis of collections from lithic scatters within this landscape increased recognition of material types, the range of expedient tools, and the overall assemblage variability – attributes not detected in the initial

survey, or via intensive on-site surface analysis.

Neeley, Michael (Montana State University) and John Fisher, Jr. (Montana State University)

[221] *The Sparrowhawk Site: Late Prehistoric Hunters in the Northwestern Plains of Montana*

The Northwestern Plains of north-central Montana comprise a varied environment of lush river valleys and grassy uplands. Previously, the authors focused on the exploitation of resources along the Marias River valley bottom. This project complements that research by examining Late Prehistoric settlement in the nearby grassy uplands. Two seasons of testing at the Sparrowhawk Site indicate the presence of a single, short-term bison processing camp. The site size and density complement the more intensive exploitation of bison elsewhere within the Marias River drainage and these material variations are probably indicative of seasonal aggregation and dispersal patterns in the Northwestern Plains.

Neff, Hector (California State University-Long Beach)

[155] *What a Waste: Identity Construction in the Archaeological Record of Southern Mesoamerica*

Ritual, symbolism, fancy pottery, monumental architecture, and other aspects of human "identity construction" incur costs that would seem antithetical to fundamental biological goals. This observation challenges us to ask why the peculiar circumstances of the human niche might select for wasteful (seemingly non-optimal) phenotypes. Comparisons with other species offer some insights. Once established, practices of "identity construction" form lineages, which may or may not coincide with biological or linguistic lineages. Using examples from southern Mesoamerica, this paper clarifies why identity construction is "wasteful," why it occurs nonetheless, and how the resulting lineages evolve over time.

[74] *Discussant*

Neff, Hector [11] see *Safi, Kristin N.*; [277] see *Nichols, Deborah L.*; [11] see *Quach, Tony T.*; [126] see *Tupa, Amy Lynn*; [277] see *Garraty, Christopher P.*; [11] see *Gilstrap, Will*; [87] see *Holland, Karl P.*

Neff, Linda (N Arizona University)

[164] *Engaging Students Using Clickers in a Large Enrollment Undergraduate Archaeology Course*

Technologies designed to encourage collaborative mobile learning provide archaeology faculty with innovative approaches to increase student-centered learning for undergraduates at Northern Arizona University (NAU). Classroom response systems, also known as "clickers", represent a mobile, static, and personal networked technology that encourages student-teacher interaction. This presentation discusses strategies on how to use clickers for student-managed quizzes and teacher-led interactive discussions to measure learner knowledge, attitudes, and skills; assess student understanding; and to increase attendance, engagement, and student knowledge retention. By adopting a variety of strategies, clickers can transform the undergraduate large enrollment archaeology class into a positive learner-centered experience.

Nehlich, Olaf [117] see *Britton, Kate H.*; [309] see *Smith, Colin I.*

Neilson, Scott (Memorial University of Newfoundland)

[235] *Over the Hills and Far Away: accounting for nutshimit in the archaeology of coastal Labrador*

The Labrador Innu have a tenure that predates the arrival of Europeans by at least 1500 years. Much of what we know as their culture history is based on archeology and the historical record, and much of this is rooted along the coast. The interior is frequently considered for its basic role in subsistence and its reflection in settlement patterns, but rarely as a significant place. To the Innu this is a major oversight. This paper addresses this oversight, defining it by example and suggesting an alternative -total- role for Nutshimit in archaeological descriptions.

Neiman, Fraser (Monticello) [78] Discussant**Neiman, Fraser [124]** see *Smith, Karen Y.***Neitzel, Jill (University of Delaware)****[119] Maker's Marks on Pueblo Bonito's Pottery**

Almost 20% of the whole decorated ceramic vessels from the preeminent Chacoan center of Pueblo Bonito in northwest New Mexico have maker's marks on either their base or side. This relative frequency is roughly double that found in the only previous study of Chacoan maker's marks. In this paper I discuss the range of variation evidenced by Pueblo Bonito's marks and search for patterns between them and the variables of vessel form, design style, and provenience. I conclude with a consideration of the social and behavioral significance of these marks and suggestions for future research.

[140] Discussant**Neivens de Estrada, Nina [203]** see *Estrada-Belli, Francisco G***Nelson, Andrew [274]** see *Shaughnessy, Roxane E.***Nelson, Ben (Arizona State University), Ann Kinzig (Arizona State University), Debra Martin (University of Nevada Las Vegas) and John Andries (Arizona State University)****[134] A Demographic Model for the Commemoration of Warriors in a Northern Mexican Ceremonial Center**

The La Quemada mortuary assemblage (500-900 CE) presents opportunities and challenges for interpreting social complexity. In this frontier ceremonial center, hundreds of disarticulated and commingled skeletons are found in configurations of display and curation. Osteological evidence and ethnographic analogy allow the suggestion that these bones are those of ancestral and enemy warriors. As a step toward understanding the significance of warriorhood in the construction of power and place, we evaluate the fit of 400 years of simulated death cohorts of warrior and commoner populations to the demographic structure of the skeletal population, including the ceremonial center and outlying villages.

Nelson, Ben [204] see *Turkon, Paula*; **[97]** see *Elliott, Michelle***Nelson, Christopher [258]** see *Nelson, Natasha R.***Nelson, Katherine (Tulane University), Manuel Perales (PANC) and Nathan Craig****[147] Piecing together the Middle: The Middle Horizon in the Norte Chico**

The Peruvian Middle Horizon is characterized by Wari imperial expansion into and stabilization of neighboring polities. Yet recent surveys of three valleys of the Norte Chico reveal the presence of pottery styles which developed prior to Wari expansion and persisted subsequent to imperial contraction and collapse. Still, Norte Chico Middle Horizon ceramic styles and architectural traditions incorporate some typical Wari elements. These trends, and an absence of local Wari administrative centers, suggest imperial influence but not direct control. The observation of valley specific permutations to these general trends within the Norte Chico suggests locally unique trajectories of political history.

Nelson, Margaret (Arizona State University) [199] Discussant**Nelson, Natasha and Christopher Nelson (Rio Grande University)****[258] Archaic Use of the Nazarene Rockshelter in Hocking County, Ohio**

Excavation conducted on rockshelters in Hocking County, Ohio has primarily documented the presence of a Woodland component and has provided little data demonstrating utilization during the Archaic. Rockshelters in this area have been subject to large scale looting as well as excavation by archaeologists prior to the establishment of modern methods, resulting in the loss of much of the potential data that could have provided a

record of when and for what purposes these rockshelters were most frequently utilized. Research at the almost completely undisturbed Nazarene Rockshelter has yielded evidence for rockshelter activity throughout the Archaic period.

Nelson, Sarah (University of Denver)

[56] *Archaeological Relevance and Writing for Popular Audiences*

In the academic world, writing for popular audiences is often disregarded as part of one's scholarly. Perhaps the least valued way for professional archaeologists to reach public audiences is writing fiction. This paper discusses the value of writing fiction about archaeology, both for the public and for the archaeologist. The public learns about the practice of archaeology and the past, and the archaeologist has to think about his/her sties in new ways.

Nelson, Zachary [297] see Mesick, Cassandra

Neme, Gustavo (Museo de Historia Natural de San Rafael) and Adolfo Gil (CONICET-Museo de Historia Natural)

[57] *Archaeofaunal record and human occupation during Middle Holocene in central-western Argentina*

Emergent evidence suggests that the middle Holocene was a time of resource scarcity in central-western Argentina. Hunter-gatherer groups may have adjusted their subsistence and settlement behaviors in response to the increased aridity characteristic of this period. In this paper, we explore the archaeological record of central-western Argentina using radiocarbon tendencies and archaeofaunal data, considered in conjunction with paleoenvironmental information. We propose a pronounced variability in human response to these conditions across the region.

[57] *Co-Organizer*

Neme, Gustavo [241] see Duran, Víctor Alberto

Ness, Olivia, Dale Croes (South Puget Sound Community College) and Mark Collard (Simon Fraser University)

[188] *Analyzing the Sauvie Basketry, Basketry Waste Materials and Experimental Archaeology*

Wet sites preserve many unique, perishable artifacts including one of the most culturally sensitive items, basketry. Our investigations of the Sunken Village site have yielded excellent examples of basketry that compare well to our recordings of private collections from Sauvie Island, thus furthering our preliminary cladistic analyses. Results suggest the cultural uniqueness of this basketry when compared to other Northwest Coast wet sites. Additionally, we compared this to Jomon basketry from the Higashimyo site. To further understand the styles and quantities of basketry production, we have analyzed basketry waste materials, worked with Native master basket weavers, and employed experimental archaeology.

Netherly, Patricia (Vanderbilt University)

[178] *Andean Irrigation and the Asiatic Mode of Production: Demystifying the Organization of Technology in Early Complex Societies*

The uncritical acceptance of Marxist derived ideas by North Coast archaeologists has led to the conclusion that these monumental remains were the result of extreme inequalities in access to economic resources, wealth and power, built with forced labor and administered by large centralized bureaucracies. The origins of irrigated horticulture are now known to be very ancient and to have developed at the level of the family and extended residence group. Over time, the sociopolitical structure shows a pattern of aggregation and dissolution which is not seen to the same degree in the irrigation networks themselves.

Neubauer, Fernanda [30] see Skibo, James M.

Neusius, Sarah (Indiana University of PA) and Beverly Chiarulli (Indiana University of Pennsylvania)

[163] *Return to the Johnston Site: New Dates and Data on the Monongahela*

In 2006, archaeologists from Indiana University of Pennsylvania conducted test excavations at the Johnston site (36IN2) in western Pennsylvania. This stockaded village site, which was excavated in the 1950s by Carnegie Museum archaeologist Don Dragoo, is the type site for Johnston Phase Monongahela. Since that time Johnston has been buried beneath at least a meter of deposits left by the Conemaugh River Lake. Nonetheless, we found that preservation is still good, and we have acquired radiocarbon, ceramic, lithic and subsistence data that provide new perspectives on Late Prehistoric adaptations at the northern margins of Monongahela territory.

Neustadt, Katherine [304] see Wegener, Robert M.

Neuzil, Anna (Tierra Right of Way Services)

[126] *From Homogeneity to Creativity: Changes in Hohokam Ceramic Design Style from the Pioneer to the Colonial Period*

Decorated ceramics throughout the Hohokam world underwent a drastic shift between the Pioneer (A.D. 650-750) and Colonial (A.D. 750-950) periods. During the Pioneer period, designs consisted of jagged hatchure filled forms, while later Colonial period vessels display a substantially wider variety of design elements, as well as diversity in design style. This shift coincides with the appearance of other forms of material culture associated with the Hohokam culture area outside of the Phoenix Basin. This poster will explore the relationship of decorated ceramics to these demographic shifts, specifically looking at the connection between the Tucson and Phoenix Basins during this time.

Newbold, Bradley [46] see Janetski, Joel C.

Newby, Paige (Brown University) and James Bradley (Archlink)

[143] *Paleoindians and the Younger Dryas: Changing Landscapes within New England and Maritime Canada*

The Younger Dryas (YD) climate oscillation impacted a widespread area that includes New England and Maritime Canada (NE/M). How closely related changes in ecosystems impacted Paleoindian presence is updated with new evidence for initial human colonization, patterns of occupation during the YD and, possibly, population collapse at its termination. Prior to Paleoindian presence, late-Glacial drainage events dramatically altered the NE/M landscape. At the onset of the YD, data for Davis and Rocky Ponds, MA, indicate short-term dry conditions, further supported by high charcoal influx at Rocky Pond. Here we explore how these changes interplayed among ecosystems, animals and humans.

Newland, Cassie [174] see Myers, Adrian T.

Newman, Jennifer

[179] *Examination of Maya Pottery: the Potential of Dirty Dishes*

Potent drinks and drugs consumed by the ancient Maya have been thus far identified by opaque glyptic text, depiction of consumption events, and more recently by residue analysis. The analysis of residues is a productive means of detecting the presence of a specific good in a specific context, however what is the greater implication of the discovery of residue in ritual contexts? Chemical and microscopic identification of residual constituents offers an extraordinary opportunity to provide the evidence needed to discuss ritual acts and paraphernalia in real terms rather than projecting ancient behaviors from art, text, or ethnographies.

Newsom, Lee (Penn State University) and C. Margaret Scarry (University of North Carolina-Chapel Hill 's Department of Anthropology)

[148] *Paleoethnobotanical Reflections on Hunter-Gatherer Complexity in South Florida*

Paleoethnobotanical reflections on the emergence and evolution of social complexity in South Florida are several. This paper draws on data from Little Salt Springs and the Windover Site at the earliest, ca. PaleoIndian-middle Archaic, as well as later

developments indicated by sites such as Horr's Island, Pineland, and Key Marco to track some of the key elements of human-plant interactions as dynamic aspects of social complexity. This includes early indications of sophistication in fiber industries and wood technology, plant cultivation, and specific changes in subsistence and settlement patterns.

Newsome, Elizabeth (University of California-San Diego) and Kelley Hays-Gilpin (University of Northern Arizona)

[228] *Spectatorship and Performance in Mural Painting, 1250-1500: Visuality and Social Integration*

The most dramatic innovation in architectural painting after 1300 is the replacement of geometric compositions by styles that emphasize anthropomorphic figures, combined with imagery that invokes song, prayer, and ritual dance. The kiva murals give new visibility to the performative dimensions of social structure in the Pueblo IV communities, providing graphic evidence for expansion in several time-based, intangible media that may be closely related to katsina religion. The paintings correspond to a new emphasis on the visual experience of witnessing and participating in community ceremonialism, suggesting a new, socially unifying ethos associated with spectatorship and dance.

Newsome, Seth D. [22] see Barton, Loukas W.

Nicholas, George (Simon Fraser University)

[1] *Why "Collaboration" Means Much More Than "Working Together"*

Significant changes have taken place in relationships between archaeologists and Native Americans over the past three decades. Much of this has been expressed through the notion of "working together," which has had a positive effect on archaeology. However, true collaborations have been and will likely remain relatively uncommon for they require that archaeologists relinquish a significant degree of control in the decision-making process. Key features of collaborative ventures are identified, particularly as they relate to power relations and benefits (both to communities and the discipline of archaeology), and examples provided of collaborative archaeological ventures in western Canada and elsewhere.

[18] *Discussant*

Nichols, Deborah (Dartmouth College), Destiny Crider (Arizona State University) and Hector Neff (California State University Long Beach)

[277] *Cerro Portezuelo and the Development of Postclassic City-States in the Eastern Basin of Mexico*

George Brainerd directed excavations at Cerro Portezuelo in the mid-1950s to understand the Classic to Postclassic transition and the questions he asked are still salient. In the wake of Teotihuacan's collapse, Cerro Portezuelo became one of the largest city-state centers in the Basin during the Epiclassic and Early Postclassic. The subsequent Aztec occupation of the Middle and Late Postclassic was more substantial than previously recognized, although Cerro Portezuelo became a subject of the Acolhua at Texcoco and subsequently of the Aztec empire. We discuss INAA data of ceramics from Cerro Portezuelo for a longitudinal perspective on these developments.

Nichols, Deborah [277] see Garraty, Christopher P.

Nickels, Kara (UCSD)

[197] *Food, Function, and Status*

Excavations at the ancient Maya city of Pusilha have uncovered a rich variety of faunal remains. Preliminary analysis reveals several interesting patterns of food consumption and may allow the identification of special function architectural groups.

[197] *Chair*

Nicodemus, Amy (University of Michigan)

[296] *Bronze Age Animal Production Systems and the Emergence of Complex Societies in the Carpathian Basin*

In Bronze Age Europe, the development of complex societies is traditionally linked to

control of metals. In the resource-poor Carpathian Basin, surplus production of animal products was essential for maintaining import of ores. During the transition from autonomous villages to more complex systems, it is expected that herd management was reorganized to support a more centralized political economy. Pressure to ensure surplus would have led to increasingly specialized animal production among villages coping with environmental constraints of mosaic marshlands. This paper examines changes in livestock production strategies at tells and subsidiary settlements during the Early-Middle Bronze Age.

Nicolay, Scott (CARST)

[225] *Caves, Agriculture, Ancestors, and Rain: Archaeology of the Mimbres Underworld*
Mimbres cave shrines have yielded some of the richest ceremonial assemblages ever recorded in the Southwest. A reexamination of this evidence in relation to ceramic iconography, agricultural practices, and mortuary traditions illuminates a virtual obsession in Mimbres cosmology with an underworld that served as the abode of ancestors and a source of rain. A fresh analysis of Mimbres cave use, both real and symbolic, ultimately provides new insights into processes that shaped the Mimbres into one of the most distinctive and successful groups in Southwest prehistory, but may eventually have led to their nearly complete disappearance from the archaeological record.

Nieves, Ana

[310] *Rock Art of the Rio Grande de Nasca Drainage, Peru: A Case Study in the Use of Motif Typologies*

In rock art research, stylistic similarities have been traditionally cited as evidence for contact and interaction. Francis (2001) cogently argued that this approach was problematic and proposed a purely descriptive approach for the study of rock art, beginning with the identification of attributes and the designation of descriptive types. In this paper I define one descriptive type in the rock art of the Rio Grande de Nasca drainage and use it as a starting point to understand the relationship between the rock art sites of this drainage and address larger questions about the use of types and stylistic classifications.

Nigst, Philip (Max-Planck-Institute for Evolutionary Anthropology), Bence Viola (Department of Anthropology, University of Vienna, Vienna, Austria), Freddy Damblon (Royal Belgian Institute of Natural Sciences, Brussels), Gerhard Trnka (Institute for Prehistory and Medieval Archaeology, University of Vienna, Vienna,) and Paul Haesaerts (Royal Belgian Institute of Natural Sciences, Brussels)

[94] *New excavations in the Early Upper Paleolithic in Central Europe: The site of Willendorf II*

We present the results of the first two excavation campaigns at well known site of Willendorf II. This site is one of the most important in Central Europe in part because it spans the period from 45 to 23 ka BP. We conducted excavations concentrating on the Aurignacian horizons with the aim of re-evaluating the stratigraphy and of collecting new archaeological assemblages and samples for an extensive dating program (14C, TL and OSL). We have discovered a new, very rich Aurignacian horizon between the formerly known Classical and Early Aurignacian levels.

Nigst, Philip [259] see Mallol, Carolina

Nikolaidou, Marianna [168] see Frahm, Ellery E.

Nilsson, Anna [174] see Myers, Adrian T.

Nilsson Stutz, Liv (Dept. of Archaeology & Ancient History)

[168] *Anthropologie de terrain – a taphonomic approach to reconstructing mortuary practices*

This transdisciplinary approach combines careful observation of the spatial distribution of human bones and artifacts in the field, with the knowledge about the processes of decomposition of the human body after death. The approach which is based on a biological understanding and a taphonomic perspective on the human body and of the burial as a

whole, allows for a more careful reconstruction of the mortuary treatment of the body during the burial than traditional archaeological methods. This poster presents the principles of the method while illustrating with examples from field-work from Neolithic sites in Jordan and Latvia.

Niquette, Charles (Cultural Resource Analysts Inc) [78] Discussant

Nisengard, Jennifer (Los Alamos National Laboratory)

[164] *Cultural resources and recreational trails use at Los Alamos National Laboratory, Los Alamos, New Mexico, education and mitigation*

This paper presents an analysis of the impacts of social trail use on historically significant cultural resources. Some areas of Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico are open to the public for use. For this reason, a 2003 environmental assessment required LANL to create a trails management plan that would in part evaluate the detrimental effects of recreational trails use on cultural resources. Two areas of LANL were studied and provided data for cultural resource managers to understand the impacts of trails use and remedies that can mitigate these kinds of effects.

Niven, Laura (Max Planck Institute for Evolutionary Anthropology), Jean-Baptiste Mallye (Université Bordeaux 1), Teresa Steele (University of California, Davis) and William Rendu (Université Bordeaux 1)

[91] *Reindeer exploitation in the Quina Mousterian at Chez Pinaud, Jonzac (France)*
The rich reindeer assemblage (NISP=5175, MNI=18) from a Quina Mousterian level at Chez Pinaud, Jonzac (Charente-Maritime, France) provides an exceptional opportunity to evaluate Neanderthal subsistence and ecology. The assemblage originates from a remarkably dense bonebed. Preservation is excellent, anthropogenic modifications are abundant, and carnivore influences are minimal. On-site butchery of carcasses and marrow exploitation are indicated by the presence of all skeletal parts, abundant cut- and scraping-marks, numerous hammerstone percussion marks, and bone flakes. Males, females and juveniles are represented but adult individuals clearly predominate. Reindeer dominate many Quina archaeofaunas and we evaluate the Jonzac data in this framework.

Niven, Laura [91] see Steele, Teresa E.

Nizolek, Lisa (University of Illinois-Chicago), Anne Underhill (Field Museum), Fengshi Luan (Shandong University) and Hui Fang (Shandong University)

[226] *Production and Distribution of Fine Black Wares During the Longshan Period in Southeastern Shandong, China*

Ever since initial excavations in 1936 at the Longshan period center of Liangchengzhen (c. 2500-1900 B.C.), southeastern Shandong has been well known for its thin-walled, polished, fine black wares. Production locations and distribution networks, however, have not been identified on the basis of systematic compositional analyses. This paper presents results from LA-ICP-MS analysis using an initial sample of sherds collected from the Shandong University-Field Museum collaborative excavations at Liangchengzhen (1999-2001) and the large scale, regional survey (1995-2007). Preliminary hypotheses about distribution patterns for fine wares during the Early and Middle Longshan periods are presented.

Noens, Gunther (Universiteit Gent - Vakgroep Archeologie) and Yves Perdaen (Universiteit Gent - Vakgroep Archeologie)

[159] *The social organisation of technology? A Mesolithic case study from the Low Countries.*

Study of skill (transmission) in lithic technology improves our understanding of prehistoric social organisation. The majority of these studies have been conducted on sites from flint-rich regions. The technology used in these societies shows a high degree of standardisation and a high level of skillfulness. The universal applicability of the criteria generated in these studies is questioned. Two sites showing a simple, ad hoc knapping technology, will be confronted with site showing a more complex technology and a higher level of skillfulness. This confrontation generates new criteria and offers other lines of interpretation, away from the simple master-pupil dichotomy.

Noe-Nygaard, Nanna (Department of Geography and Geology, University of Copenhagen)

[186] *Beach ridge formation at 6000 cal BP and the transition from Mesolithic hunter-gatherers to Neolithic farmers in Denmark*

We evaluate the effect of massive beach ridge formation during maximum sea level 6000 cal yr ago in Denmark, contemporary with the transition from the Mesolithic to the Neolithic, based on 14C dates, sedimentological and pollen data, combined with evidence from GIS information, Airborne Laser Scanning and substantiated by Ground Penetrating Radar confirms that rapid beach ridge formation resulted in a marked shift in the mollusc fauna from rich marine species to an impoverished fauna in brackish water. The consequences of this environmental change for the local inhabitants is the subject our continuing investigations.

Nolan, Kevin (The Ohio State University), Jarrod Burks (Ohio Valley Archaeology, Inc.) and William S. Dancey (The Ohio State University)

[50] *Discovering Ohio's Newest Earthwork: Geophysics and Distributional Survey of a Fort Ancient Village and a Hopewellian Enclosure at the Reinhart Site, Pickaway County, Ohio*
Recent investigations at the Reinhart Tract on the Scioto River in Central Ohio produced evidence of occupation from the Archaic through the Late Prehistoric periods. Our investigation focused on a section of the tract containing evidence of a Fort Ancient village. Methods included intensive surface survey, shovel testing, and geophysical survey (magnetometry and magnetic susceptibility). Lithic, potsherd, faunal, and pit feature distributions are used to reconstruct the village's layout. Adjacent to the village, the geophysical data revealed the imprint of a previously unknown Hopewellian enclosure. It is a square that covers ~0.12 ha with a ~1 m deep exterior ditch.

Nondedeo, Philippe [14] see Arnauld, Charlotte

Nord, Celia (Simon Fraser University) and Joanne Hammond (Simon Fraser University)

[133] *Gender Issues and the Archaeology of the Canadian Plateau*

Our understanding of the development and range of pre-contact Plateau lifeways has been largely restricted by time period constraints and limiting views of social, political and economic phenomena. While several recent studies hint at a greater range of past behaviours, reports and publications often give narrowly specific interpretations of Plateau societies. This disparity needs to be addressed, particularly in terms of subjects, such as gender, that have rarely been researched in the Plateau. This presentation focuses on issues of the archaeological representation and visibility of pre-contact Canadian Plateau women with emphasis on mortuary variability of Plateau pre-contact burials.

Norman, Jared (University of Idaho) and Robert Sappington (University of Idaho)

[105] *The Harpers Bend Site (10NP363) and Its Place in Clearwater River Region Prehistory, North Central Idaho*

The University of Idaho conducted a field school at Harpers Bend in 2006. Seventeen units were excavated to depths of 2.7 m bs. Nine historic and prehistoric features were encountered. Three radiocarbon assays ranged from 3000 to 200 BP. Obsidian samples were correlated to multiple sources in southwestern Idaho and eastern Oregon. Protein residue from stone tools tested positive for both plant and animal processing and one tool represents the first identification of camas from an archaeological site in Idaho. Based on lithic tools, faunal remains, and other data, 10NP463 was used intermittently as a campsite for several thousand years.

Norman, Neil (Ohio State University)

[76] *"The Common People Were Divided"...and Resolutely So: Toward a Regional Understanding of Huedan Political Process*

As major points of exchange for war captives bound for the Middle Passage, the principle cities of the Huedan polity are some of the most infamous African sites of the African Atlantic period. Routinely, scholars investigating this period draw from oral and

documentary sources to characterize Huedan kings and European traders as the primary agents in economic markets and political confederations. In this paper, I use new regional archaeological and ethno-historical data to revisit a critical point of Huedan history (ca. 1727) and address the role outlying communities played in the functioning and dissolution of the polity.

Norman, V. (ARCON, Inc.)

[203] *Izapa Calendar Decoded: New Light on Early Maya Origins*

In my ongoing Izapa Sculpture study since 1976 publications, I have decoded early Maya lunar-solar, Calendar Round, Long Count, and Venus calendars relating to Pacific coastal, highland Maya origins. Pillar-ball monument sightings record zenith passage of 260-day cycle. Lunar months and 20-day uinals dates are recorded on stelae. Autumn equinox new year on Stela 12 has a Calendar Round date of 1 Imox 4 Pop that coincides with a Long Count date of September 21, 176 B.C.--completing a baktun-katun-tun cycle of 421 years (in base panel). This confirms Malmstrom's 1997 thesis that the Mesoamerican calendar developed at Izapa.

North, Michael (Argonne National Laboratory) [137] Discussant

Norton, Christopher (Institute of Vertebrate Paleontology and Paleoanthropology), Chengkai Sun (Shandong Provincial Museum) and Jennie Jin (Stanford University)

[75] *The Plio-Pleistocene paleoanthropological record of Shandong Province, Central-East China: Results of CHERP field investigations in 2006-07*

Equidistant between the Middle Pleistocene Homo erectus sites of Zhoukoudian (Beijing), Hexian (Anhui Province), and Huludong (Jiangsu Province) lies a series of limestone deposits in Yiyuan, Shandong Province, Central-East China. The best known paleoanthropological deposit in this region is Qizianshan (Qizian Hill) in Yiyuan County. The China Human Evolutionary Research Program (CHERP) renewed fieldwork in 2006-07 in these limestone deposits of Yiyuan County. These field investigations revealed that well over 100 open-air and cave localities exist. At least some of these localities contain traces of Late and Middle Pleistocene hominin activity; yet an Early Pleistocene hominin.

[75] *Chair*

Norton, Christopher [75] see Lam, Yin-Man

Norton, Mary (Bellevue Community College)

[99] *CSI and Archaeology: Rewriting History?*

Is the past changing? Archaeologists have always gleaned information from human remains. The recent focus on forensic science as a tool in both archaeology and physical anthropology challenges traditional interpretations of history. This methodology has both positive and negative affects on the scientific interpretation of archaeological and paleoanthropological remains. The application of forensic methods is explored within the context of a general scientific paradigm.

Noshiro, Shuichi (Forestry and Forest Products Research Institute) and Yuka Sasaki

[188] *Selection of timber resources at Shimo-yakebe Wet site in Tokyo during the Late and Final Jomon Periods*

Use of timber resources at Shimo-yakebe wet site in Tokyo revealed that the chestnut tree (*Castanea crenata*) was preferable for large structures, whereas other deciduous trees were used for the smaller structures. We have seen the same selection of tree species from at least three contemporaneous sites in the Kanto Plain. These chestnut trees would be obtained from surrounding human managed chestnut forests. Although the diameter of the other trees averaged 10 cm, the variation of the number of their growth ring and their diameter range show that these trees were obtained from heterogeneous forests.

Novic, Juliana

[171] *Reaching the City Limits: Identifying Settlement Boundaries at Calixtlahuaca, Toluca, Mexico*

Continuous low-level sherd densities and artifact redeposition from geological processes

can complicate the identification of settlement boundaries. Earlier surveys of the Toluca Valley identify three separate sites within the area surveyed by the Calixtlahuaca project during the 2006 and 2007 field seasons. Data from the recent survey suggest a single continuous settlement spanning over three hundred hectares. I use GIS software to examine the role of environmental and cultural conditions on survey results and re-evaluate initial settlement limit estimates for Calixtlahuaca and surrounding hamlets.

Novotny, Anna

[302] *The Chan Site: A Bioarchaeological Perspective*

The proposed paper will discuss on-going bioarchaeological research at the Chan site. The Chan community is represented by burials of both sexes and all ages recovered from domestic and ritual contexts. Bioarchaeological data on health, trauma, genetic relatedness and mortuary ritual capture how individuals at Chan experienced their lives in this rural farming community over its 2000-year occupation (800 B.C. to 1200 A.D.). A synthesis of these data at both an individual and community level yield a comprehensive understanding of this community's place in ancient Maya society.

Novotny, Michael

[317] *Cultivating Mobility: Using Off-Site and On-Site Projectile Point Distributions to Understand Increased Foraging Efficiency during the Early Agricultural Period in Northern Arizona*

Southwestern archaeologists previously understood the Early Agricultural period as a period of decreased mobility resulting from the introduction of cultigens. New archaeological insight gained from enhanced dating techniques and refined artifact typologies continues to change the scholarly view of Early Agricultural subsistence economies. This study uses off-site and on-site projectile point distributions to argue that Early Agricultural populations became more efficient foragers after the introduction of cultigens. In Northern Arizona, spatial data on the proximity of projectile points to desirable resources provide evidence that Early Agricultural populations procured subsistence resources more selectively than previous populations.

[317] *Co-Organizer*

Nowell, April (Univ of Victoria-D of Anth) and Mark White (Durham University)

[154] *Life History Strategies and the Acheulian*

Evidence suggests that it is during the Middle Pleistocene that hominin life histories began to resemble those of modern humans. In this paper, we continue our research into the effects of the slowing down of the "speed of life" on the archaeological record of this period.

Nowell, Geoff [48] see Hughes, Susan S.**Nunez, Nelly (Universidad Nacional Autónoma de México)**

[279] *La Piedra Pulida de los Sitios Arqueológicos de Medias Aguas, Ver.*

Dentro de la investigación arqueológica el material que se recupera en prospección o excavación nos proporciona evidencias importantes para la interpretación de las sociedades pasadas. En este caso se estudiarán los objetos recolectados en las diferentes temporadas realizadas en los sitios arqueológicos de Medias, Aguas, Ver.

O'Neill, John [49] see Kuijt, Ian**O'Reilly, Dougald [141] see Shewan, Louise****Oakes, Nicole, Dana Lepofsky (Simon Fraser University) and Michael Blake (University of British Columbia)**

[52] *Mound-Building and the Mortuary Landscape of the Fraser Valley*

Archaeological investigation of several earthen burial mounds and rock cairns at the Scowlitz village site in the early 1990's revitalized academic attention in mortuary mound-building among the central Coast Salish. Ongoing research at Scowlitz and elsewhere shows that mound and cairn cemeteries in the Fraser Valley are widespread and varied. In this presentation, we review the Fraser Valley mortuary mound and cairn complex,

summarizing extant data on mound and cairn morphology, composition, and temporal associations, as well as cemetery composition and structure.

OBoyle, Robert

[308] *Late Archaic mobility on the Northern Plains*

This paper focuses on identification of mobility strategies during the Late Archaic of the Northern Plains. A study of lithic inter-assemblage variability derived from site components from Alberta and Saskatchewan, through Montana and into Wyoming likely indicates Late Archaic peoples used logistical mobility to obtain specific resources. While this was not the highly specialized bison hunters of the Late Prehistoric Period, the system in place during the Late Archaic provided the groundwork for this later manifestation.

Obregón, Mauricio (Posgrado Antropología UNAM, México)

[242] *Habitar la selva. Una mirada etnoarqueológica a lugares de habitación en el noroeste de Suramérica*

La arqueología del norte de Suramérica ha comenzado a interesarse por los lugares de habitación. Este interés se apoya en resultados de investigaciones regionales recientes, orientadas hacia el estudio del cambio social. La excavación extensiva de lugares de habitación debe acompañarse de una exploración detallada del registro etnográfico relativo a la vivienda y su entorno. Esta ponencia explora con fines arqueológicos la etnografía de lugares de habitación de grupos indígenas de esta región. Esta revisión del registro etnográfico se apoya en algunos conceptos tomados la arqueología del paisaje y de la sociología contemporánea tales como lugar y habitus.

O'Brien, Matthew

[208] *Reevaluation of Frost-Heaving on Subsurface Cultural Material*

With increased precision comes greater concern regarding the natural post-depositional processes that alter the traces of human activity. One such agent is cryoturbation and its ability to disturb the integrity of a past human occupation. In particular, frost-heaving potentially can blur the non-diagnostic artifacts in multicomponent sites. Past research explores the impact of cryoturbation, but its design and conclusions left room for additional experimentation. This research tests cryoturbation's impact on the vertical distribution of lithic materials and finds contradictory results from previous conclusions.

O'Brien, Matthew [128] see Merriman, Christopher W

O'Brien, Michael (University of Missouri) [100] *Discussant*

Ocampo, Carlos [292] see Flores-Fernandez, Carola F.

Ochatoma Paravicino, Jose (Univ San Cristobal de Huamango), Martha Cabrera and Tiffiny Tung

[178] *The Wari Military: Rank, Class, and Status as Viewed Through Art*

Este estudio utiliza datos de iconografía y bioarqueología para documentar y evaluar la organización y el estatus variable del ejército militar durante el imperio Wari (AD 600-1000). Teniendo como sustento los motivos representados en la cerámica donde hay diferentes tipos de guerreros y basados en los signos de violencia expresados en traumas esqueléticos, se intenta reconstruir aspectos de la vida cotidiana, en la rama militar. Se da cuenta que no existió una clase militar monolítica sino una variedad de rangos y clases dentro de la organización militar.

Ochoa-Castillo, Patricia [32] see Waters, Michael R.

O'Connell, James (University of Utah), Christopher Parker (University of Utah), Joshua Trammell (University of Utah), Lori Hunsaker (University of Utah) and Sarah Grant (University of Utah)

[173] *Experimental assessment of resource rank: Handling costs for Perideridia (epos, yampa) in the northern Great Basin*

Costs of collecting and processing Perideridia spp., a geophyte once widely used by Native

Americans, were established via scores of experimental handling bouts, conducted over a five-year period by men, women and children of various ages and degrees of experience. Return rates so derived broadly overlap those estimated from less systematic observations among more comprehensively experienced 19th and early 20th C. collectors. Results help define a partial protocol for archaeological applications of optimal foraging theory. They also show that Perideridia was (and is) among the highest ranked native plant foods available in the Intermountain West.

[173] Chair

O'Connell, James [173] see Trammell, Joshua B.

O'Connor, Sue [22] see Lape, Peter V.

Odegaard, Nancy [65] see Moreno, Teresa K.; [65] see White, Christopher

Odell, George (University of Tulsa) [29] Discussant

Odess, Daniel (University of Alaska Museum), Caroline Funk (The Richard Stockton College), Erica Hill (University of Alaska Southeast), Sarah Meitl (University of Alaska Fairbanks) and Sergey Gusev (Institute for Heritage, Moscow)

[17] *The Origins of Eskimo Whaling in Chukotka: Results of the 2007 Field Season*
Members of the joint Russian and American research team investigating the origins of frozen-coast adaptations and Eskimo (Inuit) whaling have begun excavating at Un'an'an, a 3000-year old frozen site on the southern coast of Chukotka. Stone tools from the site share many attributes with those from the enigmatic Old Whaling culture site at Cape Krusenstern Alaska, as well as with Arctic Small Tool tradition assemblages from northwestern Alaska, but are unlike those known from elsewhere in Northeast Asia. Several lines of evidence, including iconography, suggest that the site occupants were actively engaged in hunting large sea mammals, including whales.

Odess, Daniel [220] see Meitl, Sarah J.

O'Donnabhain, Barra (Department of Archaeology) and Eileen Murphy (Department of Archaeology and Palaeoecology, Queen's University, Belfast, Northern Ireland)

[291] *The Development of the Contextual Analysis of Human Remains in Ireland*
Unlike other parts of Western Europe, studies of archaeologically retrieved human remains in Ireland occur in a post-colonial context. Nineteenth and early twentieth century studies emphasised the biological difference of the Irish, both ancient and modern. After a short hiatus, studies of archaeological human remains reappeared in the 1980s. While the studies carried out in recent decades have been characterised by a broadening of approaches, empirical data gathering remains a principal concern. We explore the structures behind the study of archaeological human remains in Ireland and the influence of these on the narratives produced.

Oetelaar, Gerald (University of Calgary)

[72] *Beyond Activity Areas: The Role of Cosmology in the Organization of Space in Skin-Covered Lodges*

The domestic architecture of hunter-gatherers serves more than the utilitarian functions of providing shelter for people and a setting for domestic activities. Instead, nomadic groups occupy shelters that encode and communicate information about their social and symbolic traditions. Using examples from the northern Plains, the Canadian Arctic, Scandinavia, and Siberia, this paper illustrates how the cosmology of nomadic populations around the globe influences the design, construction, and use of skin-covered lodges. In fact, the differing cosmologies generate a variety of organizational schemes for dealing with the practical problems of creating a livable space for the occupants of these structures.

Ogburn, Dennis (University of North Carolina At Charlotte)

[13] *The Use of Historical Sources in the Archaeological Investigation of the Inca Imperial Road System*

Many historical sources contain information that can be used in archaeological survey to help identify details of the routes of Inca imperial roads or to confirm that identified roadways were constructed by the Incas or were in use in late prehispanic times. The types of historical documents that can potentially be used include the major chronicles, the Relaciones Geográficas de Indias, local legal documents, and records of early doctrinas. The case study of Inca road survey in the southern highlands of Ecuador illustrates the wide variation in the utility of the information derived from these sources.

O'Gorman, Jodie (Michigan State University) [166] Discussant

O'Grady, Caitlin (Preservation Division, Arizona State Museum), Christopher I. Roos (University of Arizona) and Kacy L. Hollenback (University of Arizona)

[45] *Of Muds, Pots, and Formation Processes: Experimental Analyses of Organic Clays Available to Pithouse Period Potters*

Interest in the earliest ceramics in the Southwest has focused attention on an apparent pan-Southwestern brownware tradition. These ceramics were presumably made with readily available, self-tempered, secondary clays. Such clays abound in alluvial deposits and are enriched with organic matter. Controlling for firing temperature and organic matter, we explore the relationship between combustion of organic carbon and fracture resistance by evaluating tensile strength. We use Raman spectrometry and scanning electron microscopy to observe changes in chemical and structural properties of organics. Finally, we explore the consequences of this technology for the formation of the earliest ceramic assemblages in the Southwest.

Ogundiran, Akinwumi (Florida International University)

[201] *Imperial Colonists and their Neighbors: The Shaping of Identities in a Frontier of Oyo Empire*

The Atlantic Age was suffused by empire formations. The European empires that dominated the commercial activities across the Atlantic and in some parts of the Atlantic basins have been the primary focus of archaeological scholarship. Yet, the drastic economic changes that permeated the Atlantic basins after 1500 also created some of the conditions for the rise of non-European empires in different parts of the world. One of such imperial formations in West Africa was Oyo Empire, an hinterland hegemony that developed in the late sixteenth century, and flourished through the seventeenth and eighteenth centuries. The cultural pathways by which the city-state of Oyo was transformed into an hegemonic empire is not well understood. Recent archaeological investigations have, however, shed light on the dynamics of migrations, settlement strategies, and material life in the very first successful colony that Oyo established in the pursuit of its imperial ambitions. This presentation will examine the everyday material lives in the Oyo frontier town of Ede-Ile, and in the neighboring settlement of Osogbo (about 24km apart). The goal of the presentation is to highlight the strategies of identity formation between the agents of the empire at Ede-Ile and the anti-imperial agents at Osogbo. The presentation will address the collision between sociopolitical and economic aspects of identity formation in a frontier environment, and the consequences for Oyo imperial project. The study will be a contribution to the archaeology of frontier and boundary studies, identity formation, colonization, and imperialist hegemony in Atlantic Africa with prospects for contextual cross-cultural comparisons.

O'Hara, Michael (Arizona State University)

[177] *The Magician of Ridge Ruin: An Interpretation of the Social, Political, and Ritual Roles Represented*

The Magician was accompanied by paraphernalia representing numerous ritual roles. The array of objects found does not suggest a generalized practitioner. Different sets of specialized paraphernalia for the enactment of symbolically and functionally differentiated rituals are present. This diversity may reflect the needs of the living to reaffirm their positions in a new social arrangement. The decommissioning of this assemblage may have

been a reaffirmation or restructuring of the ritual order. Rather than being an example of an aggrandizing elite, the Magician burial was a reaffirmation of the social ideals of distributive power by individuals or groups controlling different rituals.

Ohms, Oriol [259] see Ferring, Reid

Ohnersorgen, Michael (Dept. of Anthropology, University of Missouri-St. Louis)

[185] *Reconstructing the Aztatlán Tradition Economy: Production, Trade, and Interaction on the Nayarit Coastal Plain*

Research at Chacalilla, Nayarit, reveals evidence for the production of ceramics and obsidian blades. Chemical compositional studies were conducted on 75 obsidian artifacts from Chacalilla and on 283 pottery and raw clay samples from Chacalilla and neighboring sites of Amapa, Coamiles, Peñitas, and Santa Cruz. Chacalilla was well-tied into short- and long-distance obsidian exchange networks with several source areas to its east. Ceramics reveal a more complex picture of local production and exchange of various Aztatlán decorated wares among several centers. Spatial patterns of artifacts in Chacalilla surface collections provide some insight into the organization of local economic interaction.

Ojeda, Bernardino [231] see Reid, David A.

Oka, Rahul (University of Notre Dame)

[286] *At the intersection of archaeology, ethnography and economics: Modeling Trading Systems in the Indian Ocean, ca. 1500-1700 C.E.*

Most archaeological studies on ancient economies have focused on questions of political economy and have largely been framed by the debates between Substantivist, Formalist, Marxist and Institutional thought. In this paper, I propose an inclusive bottoms-up modeling strategy: the Trading Systems approach. I simulate the changing Indian Ocean economy, ca. 1500-1700 C.E., and test the implications of the model using ethnographic, archival and archaeological data on the trading port-cities of Chaul (India) and Mtwapa (Kenya). I argue that bottoms-up modeling and innovative combinations of archaeology and ethnography can provide alternative explanatory mechanisms for studying the development of ancient trade.

Okoro, John (University of Ghana-Legon)

[201] *The colonial encounter in Salaga in the early 20th century: Archaeological indications of a water management heritage*

Archaeological research on water management in Salaga shows the product of colonial encounter. In 1874, Britain defeated Salaga and after struggling with Germany for a while, took over the control of Salaga. As a settlement, Salaga had a precarious water situation that had been handled over the years using indigenous strategies. Water management therefore, engaged the attention and policy direction of individual District Commissioners. A borehole, a dam, wells and cisterns of multiple chambers mark the archaeological landscape. The dynamics of the colonial water management experience is not only material, it is also captured in the memory of old persons.

Okoshi, Tsubasa (Sophia University)

[14] *Residence/Delegational Office or Barrios? A Consideration on the Political-Spatial Organization among the Postclassic Yucatan Maya*

In the Late Postclassic period, the political organization of the Mayas in Yucatan was based on the human relationship between the ruler (halach uinic) and the others (batabob) who recognized his supremacy. This type of political organization allowed dependent batabob to enjoy certain autonomy. However, in order to maintain the political cohesion, these batabob had their residence/delegational office in the capital, without forming barrios which were created as a consequence of the Spanish colonial politics in the 16th Century.

Okumura, Maria (Leverhulme Centre for Human Evolutionary Studies) and Sabine Eggers (Dept. de Genética e Biologia Evolutiva, Instituto de Biociências, Universidade)

[139] *Natural and cultural formation processes on the archaeological record: a case study regarding skeletal remains from a Brazilian shellmound*

Formation processes are the natural and cultural processes that make up the archaeological record. We identify and discuss the natural and cultural formation processes influencing the interpretation of burial rituals of 89 individuals exhumed in a prehistoric Brazilian shellmound, Jabuticabeira II, dated between 2890 +- 55 and 2186 +- 60 BP. We also argue in favour of true multidisciplinary research where specialists such as bioarchaeologists participate in the decision processes of strategy of excavation, coordinate sample collection and documentation on burials.

Okun, Adam

[140] *Preliminary Analysis of Lithic Artifacts from the Pueblo Bonito Middens*

Past analysis of lithic artifacts within Chaco Canyon has focused on differential access to non-local materials, technological differences between material types, and the role that exotic materials may have played in the possible ceremonial function of the canyon core. New material from the Pueblo Bonito middens allows for a reassessment of previous models and comparison with material recovered from Pueblo Alto and small sites within the canyon. This paper presents preliminary data on lithic technological organization, reduction strategies, and patterns of chipped stone deposition from the Pueblo Bonito middens.

Oland, Maxine (Northwestern University)

[267] *The 15th-17th Century Lithic Economy at Progresso Lagoon, Belize*

The 15th century saw many changes at Progresso Lagoon, including the shifting of the main settlement from the island of Caye Coco to the west shore of the lagoon. This paper compares lithic data from Caye Coco and the shore settlement to illustrate the changing political and economic climate of northern Belize. The abundance of projectile points suggests increased inter-community conflict in the 15th century. Less inter-community and long-distance trade is suggested by an increasingly self-sufficient and informal lithic economy. Yet curation and recycling efforts indicate a continued preference for Colha materials, despite the abandonment of the Colha workshops.

[38] *Chair*

O'Leary, Owen (JPAC-CIL)

[33] *Temporal changes in fishing strategies at Nu'alolo Kai, Nā Pali Coast, Kaua'i, Hawai'i*

Marine resources were an integral component of prehistoric Hawaiian subsistence patterns. This paper explores the diachronic changes in marine fishing strategies through ichthyofaunal remains from Nu'alolo Kai on Kaua'i's rugged Nā Pali coast. Quantitative analysis suggests that in earlier periods, the prehistoric inhabitants of Nu'alolo Kai focused on inshore reef fishes, and later shifted their fishing tactics within this zone to focus on fishes that were living at the edges of the reef. Data are compared with other archaeological assemblages from throughout Hawai'i and the Pacific and with modern demographics reef fish populations.

Oliver, James (Illinois State Museum - RCC)

[238] *New Analyses Of Hominin And Carnivore Damages In The FLK-Zinj Faunal Assemblage: Interpretative Concordance And Conflict*

Analyses of FLK-Zinj limb assemblage tool and tooth damages have - due to differences in observed frequencies and the perceived explanatory efficacy of experimental models - yielded different interpretations of hominin behaviour. New analyses of FLK-Zinj address inter-observer variation in damage frequencies and the utility of existing experimental models. Four points are made: 1) When appropriate samples are compared, all observers report similar tool-mark frequencies. 2) Varied tooth-mark frequencies are due to difficulties in interpreting inconspicuous marks. 3) Cut-marks are preferentially located on shafts, indicating defleshing. 4) Tooth-marks on fracture surfaces of hammerstone-broken shafts indicate carnivores scavenged hominin food-refuse.

Oliver, Jeff

[209] *Archaeologies of Colonialism: Acculturation, Resistance and the Construction of Aboriginality on the Northwest Coast*

Colonialism had an enormous impact on New World Indigenous cultures – but what was its specific nature? Conventional views have tended to explain cultural contact in terms of acculturation, through comparing “traditional” cultures with their “colonized” cousins. More recent interpretations have instead emphasized Indigenous strategies of resistance to the colonial project. Which of these versions is closer to the mark, or is the history of this process an altogether more complicated matter? This paper suggests a more balanced way of thinking about colonialism by considering how the “active” role of material culture was constitutive of new cultural middle grounds.

Oliver, Jim [238] see Ferraro, Joseph V.

Oliver, Jose (University College London)

[240] *Religious Syncretism: Native Cemi Idols and Christian Icons in Cuba and Hispaniola, AD 1497-1514*

This paper re-examines the old question of what is (religious) syncretism. It might be said that, theoretically, syncretism can be one result among others of processes entailing exchange and mobility. The two case studies from Cuba (1514) and Hispaniola (1496-7) reveal the diverse values, beliefs, motivations and actions that the natives took in regard to Christian and its aftermath. The Hispaniola case is one of sheer native repudiation and resistance, but the Cuban example provides valuable clues to focus on syncretism as a tense, dialogic phenomenon rather than merely a process of hybridization.

[196] *Discussant*

Olivotto, Michael [172] see Ruggles, Angela J.

Olsen, Asle (University of Bergen)

[186] *The development of permanent hunter-fisher settlements in the Mesolithic of Western Norway*

The paper gives a broad survey on hunter-fisher settlement growth and change. A development towards intensification, concentration and permanence is indicated by interdisciplinary data from site investigations and by a comparison of site frequencies and patterns in systematically surveyed areas.

Olsen, Karyn [134] see White, Christine D.

Olsen, Lisa [289] see Foster, Thomas

Olsen, Sandra (Carnegie Museum of Natural History), David Maki (Archaeo-Physics), Michael Rosenmeier (University of Pittsburgh) and Rosemary Capo (University of Pittsburgh)

[190] *Magnetic Gradient Imaging and Geochemical Evidence for Early Horse Corralling in Northern Kazakhstan*

Fourth millennium Copper Age Botai horse pastoralists were aberrant in the Eurasian steppe for having large permanent settlements. Magnetic imaging of the Krasnyi Yar site revealed post molds in curvilinear patterns indicative of enclosures, or corrals. Geochemical analysis conducted on one enclosure determined manure had likely altered soil constituents. Phosphorus concentrations in the HCl leachates for transect samples were elevated, but nitrogen levels were comparatively low. This is expected for ancient deposits, since nitrogen is highly mobile and readily depleted. Elevated sodium concentrations may be indicative of horse urine. Corralling provides strong evidence for horse domestication by the Copper Age.

Olszewski, Deborah (Dept of Anthropology)

[154] *Reductive Technology and the Epipaleolithic of the Middle East and North Africa*

More than 30 years ago, Arthur J. Jelinek recognized the importance of lithics as a reductive, rather than additive, technology. This now commonplace observation, however,

is often ignored in lithics as “cultures.” Reductive technology limits available options in knapping and retouching episodes, which, in turn, increases the potential for multiple independent origins for lithic types and technologies. Resulting similarities are keys less to shared cultural tradition than to the underlying nature of reduction and to strategic needs. Issues raised by reductive technology are examined using Middle Eastern (Nebekian and Zarzian) and North African (Egyptian and Iberomaurusian) Epipaleolithic assemblages.

Olszewski, Deborah I. [269] see Schmidt, Beverly A.

O'Mansky, Matt (Youngstown State University)

[203] *Preclassic Settlement in the Lower Pasión River Region: A View from the Petexbatún*
More than a half century of research in the lower Pasión River region has yielded abundant data on all periods of ancient Maya civilization. While much of this work focused on the abandonment of this zone in the Late to Terminal Classic periods, a rich corpus of data from the Preclassic exists. The history of the early settlement of the region is reviewed with a focus on archaeological and ecological evidence from sites in the Petexbatún.

O'Mansky, Matt [187] see Barrios, Edy

O'Neil, Megan (University of Southern California)

[257] *Production, Experience, and Performance of Historical Knowledge in Ancient Maya Spaces*

This paper explores the production, experience, and performance of ancient Maya historical knowledge in a context of visibility, invisibility, accessibility, and inaccessibility. To these ends, the paper examines placements of texts and images in a variety of media, considering how placement affected access and viewing, with emphasis on people viewing, reciting, or otherwise experiencing works as an integral part of the production and performance of historical knowledge. Furthermore, this paper considers how such materials were treated in later moments, exploring how changes in visibility affected these processes. Focus will be on multiple Maya sites, particularly in the Usumacinta River.

O'Neill, J. Casey [318] see Anaya Hernandez, Armando

Quicche, Antonio (Museo Contisuyo)

[263] *Museo Contisuyo: Proyección hacia el Pueblo*

Founded in 1994, the Museo Contisuyo is the public outreach institution of the Contisuyo research program. Its mission is conservation of the research collections amassed by the Contisuyo investigations, public education and outreach to the community, and the preservation of the archaeological patrimony of Moquegua. Supported by the Southern Peru Copper Corporation, the Contisuyo Museum is a shining example in Peru of private partnership in support of the common good. The Museum's exhibit, research, and education activities are highlighted as a model of good stewardship.

Orchard, Trevor (McMaster University)

[230] *Late Holocene Fisheries in Gwaii Haanas: Species Composition, Trends in Abundance, and Environmental or Cultural Explanations*

Archaeological research in Gwaii Haanas (southern Haida Gwaii, British Columbia) has documented a late Holocene shift from generalized economies to more specialized economies dominated by salmon. The species composition of salmon assemblages from this period, identified through a combination of radiographic and metric techniques, indicates a focus on local salmon populations, and excludes the possibility that these salmon were traded from major salmon rivers on the mainland. This shift towards an intensive focus on the small salmon populations that spawn in southern Haida Gwaii likely resulted from a combination of environmental changes and historically contingent cultural developments.

[288] *Discussant*

Orchard, Trevor [243] see Burchell, Meghan; [172] see Szpak, Paul

O'Reilly, Dougald (University of Sydney)

[141] *Moated Sites and Changing Perceptions of Landscape in Iron Age Thailand*

Research in Northeast Thailand seems to indicate a change in the social organization from the Bronze Age to an increasingly hierarchical structure during to the Iron Age. Many Iron Age settlements are surrounded by ditches and ramparts which may be a indication of increasing hierarchy and changing conceptions of the environment. The intensification of agriculture may have had a profound effect on the socio-political structure and contemporary conceptions of space. Similar developments have been noted for Iron Age Britain. This paper suggests that such conceptual alterations may present an explanation for the florescence of moated sites.

[141] *Co-Organizer [141] Chair*

O'Rourke, Dennis (University of Utah), Anne Jensen (UIC Science LLC) and Justin Tackney (University of Utah)

[223] *Molecular Analysis of Early Thule at Nuvuk, Pt. Barrow, Alaska*

To evaluate alternative colonization models of the North American arctic, an understanding of genetic variation among ancient populations of north Alaska is required. We report preliminary HVSI DNA sequence data from high-quality nucleic acid samples from several individual Thule burials at Nuvuk, Pt. Barrow, Alaska. Almost all can be placed within a specific mitochondrial sublineage of haplogroup A2. This lineage predominates in the modern Inuit populations of eastern Canada and northeast Greenland. These new molecular data are compared to existing data from other prehistoric and modern arctic populations and to recent demographic simulations of Thule arctic colonization.

[256] *Discussant*

O'Rourke, Dennis [256] see Enk, Jacob M.

O'Rourke, Michael (University of Toronto)

[295] *A Heuristic Accounting of Canoe Use in Northwest Coast Landscape Studies*.

Archaeologists tend to employ a standardized travel rate when modelling potential canoe voyage distances. These rates of travel are occasionally based on a single historic account, which can call into question the veracity of travel routes and settlement patterns developed from them. I intend to enhance my model of landscape interaction by accounting for the reverence shown to traditional canoes and the wide range of factors influencing their use by the First Nations people of the Northwest Coast. This heuristic approach to landscape studies will be facilitated by the employment of geographic information system (GIS) based research methods.

Orr, Kelly

[44] *Coastal Versus Inland Subsistence Adaptations during the Woodland Period:*

Vertebrate Fauna from Bayou St. John (1BA21), Baldwin County, Alabama, USA

The nature of regional subsistence patterns during the Woodland period is debated, yet comparison of several southeastern faunal assemblages indicates distinct coastal versus inland subsistence adaptations. Zooarchaeological evidence from Bayou St. John, located in (1BA21), Baldwin County, Alabama, indicates that inhabitants of the site relied on locally-available estuarine resources, with an emphasis on bony fishes. These dominant resources are supplemented by deer, turtles, and a rich array of other wild taxa. Similar patterns are identified at other coastal sites and contrast with those from inland locales, which tend to be dominated by a broad spectrum of terrestrial and aquatic resources.

Ortiz, Agustín [251] see Brackett, Claudia L.

Ortiz, Roxzanda [97] see Runggaldier, Astrid M.

Ortman, Scott

[228] *Bowls to gardens: the history of Tewa community metaphors*

Tewa songs routinely conceptualize the village as a garden, but Tewa words for the village invoke the imagery of containers, and especially pottery bowls. How did this disjunction come about? Integrated archaeolinguistic analysis can provide some answers. Container-

related village terms are not present in Tiwa or Towa, and thus date from a period when Tewa was already a distinct language. Also, Northern San Juan architecture, which was likely made by Tewa speakers prior to the Rio Grande migration, does express container imagery. Finally, Rio Grande archaeology suggests that the link between gardens and architecture developed in the Rio Grande.

Ortmann, Nicole (Penn State Univ)

[174] *Food Storage Duration in Traditional Societies*

In many past societies, food storage played a central role in both survival and emerging cultural complexities. Many communities depended on stored foodstuffs to better cope during "bad years" of natural and agricultural productivity. Of particular archaeological importance, storage capabilities are also an important means of surplus accumulation. Surpluses are associated with increased sedentism and tied to the emergence of social inequalities. A current theory of political complexity builds on the idea of multi-year storage capabilities; however this study incorporates assumed storage potentials based on speculation, not on factual data. These preconceived values may not accurately reflect actual storage durations.

Orvald, Tucker [172] see Hackenberger, Steven

Orwoll, Shelia [230] see Smith, Ross E.

Osborne, James (Harvard University)

[206] *The Bench Tomb and Secondary Mortuary Practice in the Southern Levant*

One of the most familiar burial types in the southern Levant is the "bench-tomb", found in Judah during the Iron II period, or 1000-600 BCE. These tombs consist of rock-cut chambers with stone benches along the walls facing the entrance, under which were cut large pits serving as bone repositories. Traditionally interpreted as facilitating the addition of further burials, these repositories, however, also bear witness to an elaborate and widespread secondary mortuary ritual. Historical documents provide textual correspondence between Israel's practices and beliefs about the dead and societies whose secondary mortuary practices and beliefs have been ethnographically demonstrated.

Oster, Elizabeth and Michael Elliott (Tierra)

[97] *A Ceramic Chronology for Cerro de las Ventanas*

The focus of this research is a complex Caxcan site in Southern Zacatecas with a history of occupation datable from the Terminal Formative to the Spanish Conquest. A ceramic chronology linked to radiocarbon dates provides a temporal framework (Epiclassic to Late Postclassic/Protohistoric) for assessing cultural continuity and change along this strategically important portion of the northwestern Mesoamerican frontier.

Osterholtz, Anna (SWCA)

[222] *The Tall and the Short of It: A Case of Diminutive Stature in Prehistoric Ridges Basin*

In this poster presentation I examine one of two individuals recovered during the Animas-La Plata project that exhibit unusually short stature. The long bones from Burial 294, an adult female, were complete enough to compare with several female burials. Despite this short stature, the long bone ratios are very similar to other females recovered from the project. Moreover, morphological changes consistent with endocrine disorders are not present and no overt signs of malnutrition or other pathological changes are present. Visual and statistical data comparing Burial 294 to other female burials recovered from the ALP project area are presented.

Otarola-Castillo, Erik (Iowa State University), Dean Adams (Iowa State University), Michael Collyer (Stephen F. Austin State University) and Nancy Coinman (Iowa State University)

[95] *Differences Between Point Morphology Methods: Traditional Caliper Measurements versus Geometric Morphometrics.*

The recent application of Geometric Morphometrics to archaeological problems, specifically, to compare stone tool morphology, has yielded promising results. Essentially,

Geometric Morphometrics is an analytical technique designed to quantify morphological variation between objects by generating shape variables and statistically evaluating their variability. Although caliper-based stone tool metrics are used in multivariate analyses of morphological variation, these measurements might not account for the full variability in a specimen's overall shape. This study evaluates these two morphometric methods applied to the same lithic assemblage. Results suggest that Geometric Morphometrics captures more complete morphological information than caliper measurements.

Otarola-Castillo, Erik [95] *see Byerly, Ryan; [95] see Schoville, Benjamin J.; [95] see Boehm, Andrew; [95] see Burnett, Paul*

Otis Charlton, Cynthia

[301] *Last Firing: the Persistence and Death of the Aztec Figurine Tradition in the Postconquest World*

The Mesoamerican figurine tradition may have reached its apex at the point of the Spanish Conquest, but it is the aftermath of the Conquest and its visible effect on this tradition, both in rural sites and at the center of the Conquest, that gives some insight into tradition, religion, and the clash of cultures. When the figurine reappears in later periods it may, or may not, play quite different roles.

Otte, Marcel (Universite de Liege)

[269] *Modernization from Iran to Europe*

Old and recent excavations in the Zagros region demonstrate a greater antiquity for Aurignacian sites in comparison with those in Europe and the Levant. Cultural traditions are identical, dates older, and sites abundant, forming a demographic "reservoir." The Middle-to-Upper Paleolithic transition occurred locally, from the Zagros Mousterian, especially at Warwasi. Mousterian technology persisted until the Aurignacian was fully developed (recent excavations at Yafteh Cave, Iran). Aesthetic (pendants, colorants) and technical concepts (bone tools, bladelets) are identical to those in the Balkans. Westward expansion north of the Black Sea appears to be the most probable route for modern human migration.

Ouellet-Pelletier, Charles

[133] *Bridging the Past: Investigating the possible existence of ancient bridge sites in the Lillooet Area*

Bridges presumably played a central role in the distribution and access to important economic resources in the Mid-Fraser Canyon of British Columbia, however as of yet no one has addressed this issue. The degree to which village sites, such as Keatley Creek, controlled or monopolized bridges for their economic gain is of important theoretical concern when considering the socioeconomic organization of these communities. This study employs Geographical Information System to help predict potential bridge locations. Data on known spatial distribution of aboriginal bridges, associated villages and various constraints of ancient bridge building technologies are referred to. Preliminary results are presented.

Ovenden, Susan (Orkney College, UHI) and Jane Downes (Orkney College)

[54] *The Heart of Neolithic Orkney*

The Heart of Neolithic Orkney was inscribed as a World Heritage Site in 1999. Research, using an integrated and holistic approach to the wider landscape, is being undertaken and includes an ongoing program of geophysical investigations. To date 240ha of Gradiometry and some targeted Resistance, GPR and Electrical Imaging has been undertaken. Anomalies indicative of Neolithic, Bronze Age, and Iron Age settlement have been identified. This paper aims to present not just the survey results but also how the survey strategy has been led by and fed back into the management and research strategy of the WHS.

Overholtzer, Lisa and Michael Glascock (University of Missouri Research Reactor Center)

[144] *Trading Faces: INAA results from Ceramic Figurines from Postclassic Xaltocan, Mexico*

This paper presents the results from Instrumental Neutron Activation Analysis (INAA) of 60 ceramic figurines from Xaltocan that were likely purchased through the market system. Beginning with the assumption that everyday buying and selling decisions largely determined patterns of exchange (Nichols et al. 2002:73), I use the INAA data to explore the social networks of people living in Xaltocan in the Postclassic. I compare the INAA data by figurine type, by time period of use, and spatially across the site to examine variability and patterns in purchasing decisions.

Owen, Bruce

[147] *Wari in the Majes-Camaná valley*

Wari artifacts far from Ayacucho are often understood in terms of imperial domination or trade in exotic goods. The Majes-Camaná valley, 370 air kilometers from Huari, suggests a different pattern, in which a widespread rural population of coastal farmers used a local Huamanga grade variant of quotidian Wari ceramics. One small, tentatively identified Wari administrative center was probably built centuries after the Huamanga ceramics were adopted. Current evidence suggests a long-term, pervasive cultural relationship, but not a discrete population intrusion, an imperial corporate style used by intrusive officials or co-opted elites, state economic infrastructure, or religious conformity.

[263] *Discussant*

Owoc, Mary (Mercyhurst College)

[72] *Re-crafting the Domestic: social technologies and the creation of built forms in the British Bronze Age*

Viewed from the starting point of British Bronze Age perishable technology, this contribution moves from the grounded social technologies that bring such objects into being towards a view of Bronze Age material culture construction in general that transcends templates and contemporary categorizations of form and practice. It is suggested that sensitivity towards socially constitutive, signifying craft practice can provide an alternative way of conceptualizing the Bronze Age world view that informed the creation of, and engagement with multiple built forms.

Owoc, Mary Ann [48] see Zore, Christina

Oxenham, Dr. Marc [141] see Huffer, Damien G.

Oxley, Mark, Julie Field (Ohio State University), Michael Graves (University of New Mexico) and Peter Mills (University of Hawaii at Hilo)

[156] *Pre-Contact Basalt Utilization of Pololu Valley, Hawaii: Results of Recent EDXRF*

The distribution of artifacts in pre-contact Hawaii has been investigated by researchers over the past century in order to examine economic trade and contact among ahupua'a, districts, islands of the Hawaiian archipelago, and between other islands of Polynesia. One of the most important basalt tools used in pre and post-contact Hawaii was the stone adze. Using EDXRF analysis, materials associated with the production and "re-utilization" of adze tools, within the geographic boundary of Pololu Valley, was sourced to acquire a better understanding of how pre-contact Hawaiians utilized basalt sources for tool production and how this source utilization changed over time.

Oxley, Mark [33] see Graves, Michael W.

Oyola-Coeur, Monica (FLORIDA ATLANTIC UNIVERSITY/BCC)

[131] *A Preliminary Investigation of Ceramic Styles and Chronology at the Rio Chico Site, Manabí, Ecuador.*

Stratigraphic excavations at Rio Chico (OMJPLP170), a multi-component site in Manabí, Pacific coastal Ecuador, provided a ceramic assemblage of primarily utilitarian wares used to reconstruct the local chronology, dating from the Early Formative Valdivia Phase

(c.3200-1500BC) to the Integration Manteño Phase (c.AD500-1532). Ceramic styles were identified. Vessel reconstruction provided insights about the types of activities and behavioral patterns, and stratigraphic contexts were examined to elucidate site function for each component. Comparative analysis of stratigraphic contexts and chronologies from Rio Chico and the adjacent Salango site (OMJPLP140-141) aided in understanding their correlations revealing similarities and differences between these prehispanic coastal settlements.

Ozbal, Rana

[168] *Using Microarchaeology and the Chemical Analyses of Floor Sediments to Understand the Spatial Patterning of Living Floors at Tell Kurdu, Turkey*

This poster discusses the pros and cons of two techniques to understand spatial patterning on living floors at Tell Kurdu, Turkey: the chemical analysis of floor sediments and the application of microarchaeology (referring to the distribution of artifacts less than 1 cm in size embedded within floors). Microarchaeological analyses allow for the identification of clean/dirty areas, areas of moderate burning and flint knapping, while elevated levels of given elements yielded by the chemical analyses detect signs of food preparation. When used together the techniques bring important insights into how indoor and outdoor spaces at prehistoric Tell Kurdu were used.

Ozbun, Terry (Arch Investigations Northwest)

[142] *Applying Traditional Knapping Technologies to Manufactured Glass during the Contact Period in the Lower Columbia River Valley*

Manufactured glass can be flaked much like obsidian (volcanic glass) to make sharp-edged tools. Glass, in the form of bottles and jars, was imported to the Lower Columbia River Valley in the late 1700s and early 1800s. Native people there transformed glass containers into raw materials for tool production. I examine the technological strategies Native people employed for traditional flaking of manufactured glass using analyses of glass artifacts found at archaeological sites in the Lower Columbia River Valley.

Ozguner, Nimet Pinar (Boston University) and Christopher H. Roosevelt (Boston University)

[39] *Aerial Photography and High-Resolution Satellite Imagery: Assessing Landscape and Land-Use Changes in Central Lydia*

This paper reports investigations of the use of aerial photography and satellite imagery to track environmental conditions, anthropogenic landscape alterations, and settlement location changes in central Lydia. Aerial photographs from 1949 and 1995 are compared with Quickbird satellite images acquired in 2006 to determine both short- and long-term changes in the shoreline of the Gygaean Lake, field boundaries and land-use across varying landscapes, and the changing conditions of contemporary and ancient settlements and monuments.

Pace, Jessica (Memorial University)

[300] *Voices of Change: Métis Narratives and the Archaeological Landscape from 1918 to Today*

This research uses narratives gathered from Métis elders and data from archaeological survey to access information about the importance of abandoned traditional sites near Cartwright, Labrador. The correlation between landscapes and the formation of personal and group identity is well documented in the literature concerning landscape archaeology; however, displacement is often overlooked in this context. This research tests theories related to archaeologies of landscape and memory by investigating the ways in which events that have caused displacement of the Labrador Métis from traditional villages to larger, more permanent settlements have influenced and continue to affect the formation of the Métis cultural identity.

Paddock, Cheryl (National Park Service) and Gary Brown (National Park Service)

[2] *Great House Architecture of Aztec Ruins: Chacoan Migration or Local Emulation?*

Unlike Chaco Canyon, where great house construction began to evolve slowly during the 9th Century AD, such buildings appear suddenly in the Middle San Juan region about two

centuries later. Was this emergence a result of Chacoan immigration or local emulation? Our analysis of architecture and construction processes at Aztec Ruins provides data for assessing Chacoan presence in this region. In comparing low-visibility to high-visibility architectural attributes, we differentiate between patterns of migration and local emulation. Our findings show both patterns. Certain architectural attributes are associated with local characteristics, while others can be attributed to Chacoan immigration.

Paddock, Cheryl [266] see *Brown, Gary M.*

Page, David [128] see *Duke, Daron G.*

Pagel, Tressa and Leroy Keener (South Puget Sound Community College)

[188] *Bone, Antler and Beaver Tooth Artifacts in Northwest Coast Wet Site Contexts*
In the Northwest Coast the presence of waterlogged sites has helped preserve organic material such as wood and fiber artifacts, as well as bone, antler, and beaver tooth artifacts. These artifacts have been found at wet site including Qwu?gwes, Ozette Village, Hoko River and the Sunken Village site. Bone, antler and beaver teeth artifacts have been found in association with wood and fiber artifacts. For example, fish hooks and harpoons with wooden shanks and cherry bark bindings, abundant split wood debitage from antler wedging and fine wood chips from beaver tooth knives. With complete tools, experimental archaeology means much more.

Pailes, Matthew (The University of Arizona)

[4] *Wealth Differentiation and Social Organization at Cerro Prieto*

At the onset of the Early Classic period, the Tucson Basin Hohokam participated in a multi-site community structure focused on platform mound centers. Mounds are often viewed as a physical infrastructure for consolidating power used by emerging elites, who controlled these public spaces and their ideological significance. Cerro de trincheras villages were also established as a second specialized site-type within some Tucson Basin community settlement systems. An analysis of construction labor for houses and other features at one trincheras site documents several diffuse means of conveying differentiated status, but an absence of the same centralized control displayed at mound sites.

Paine, Richard (University of Utah) and Jesper Boldsen (University of Southern Denmark)

[286] *Implications of Changing Epidemic Frequency for Child Reproductive Value in Holocene Europe*

Previously (2002, 2006) we tested the hypothesis increasingly frequent epidemics caused child death patterns we observed in a large database of European skeletal series (14,089 individuals from the Mesolithic through the Middle Ages). We had compared observed death patterns to patterns generated in a series of model projections, revealing a compelling fit to the skeletal data. Here we examine possible impacts of changing epidemic frequency on child reproductive value. Life history theory predicts observed changes in child reproductive value would cause fertility levels to rise into the Middle Ages then decline. This pattern anticipates the European demographic transition.

Paling, Jason, Justin Lowry (University at Albany) and Marx Navarro Castillo (University at Albany)

[5] *Replication and Use-wear Analysis of Shell and Stone Adzes*

This poster will display data and analysis of replicated ancient tools. The project included the construction of a dugout canoe, which provided use-wear from a predictable source. Both shell and stone tools were constructed and used to carve the replica canoe. The majority of results coming from the use-wear were mainly applicable to stone tool analysis, whereas the shell tools were more importantly useful in learning modes of reduction and preparation as well as breakage patterns of shell adzes. Additional methodological understanding will come from comparisons of striations on stone versus shell tools.

Palka, Joel (University of Illinois-Chicago)

[301] *Lacandon Maya Ethnogenesis After the Spanish Conquest*

This research examines indigenous culture change in free Maya territory over a long period. The effects of the Conquest on Lacandon society and their responses to change were different than other parts of Mesoamerica since they were on the fringes of Spanish colonization for hundreds of years. Information from historical sources and recent archaeological investigations in the remote Maya lowlands of Chiapas, Mexico, and Petén, Guatemala, will be presented. The findings show that Lacandon culture was created from indigenous responses to their transforming world from the sixteenth to the twentieth centuries.

Palkovich, Ann (George Mason University)

[20] *Bioarchaeology and Measures of Hardship in the Prehispanic American Southwest*

Skeletal porosities, particularly vault and orbital lesions, are pervasive in Prehispanic American Southwest. Generally attributed to endemic iron deficiency anemia, these lesion patterns are a hallmark disease pattern among these sedentary Ancestral Puebloan groups. More recently other pathologies, such as rickets and scurvy, have been systematically identified in Ancestral Puebloans. New nutritional and epidemiological insights based on living populations suggest that a more complex pattern of metabolic disturbances affected these prehispanic populations. I propose the ways in which social practices, dietary profiles and archaeological site signatures allow us to assess skeletal pathologies as measures of hardship in these prehispanic groups.

Pallan, Carlos (INAH)

[150] *Reconstructing ancient Maya history today: Moving away from romanticism and dogma towards historiography and science*

Outmoded arguments first spawned by romantic explorers would eventually evolve into dogmatic standpoints under the weight of influential figures of past century's Maya scholarship. Divergent approaches stems from new epigraphic and archaeological advancements more in tune with the historical dimension of Maya civilization, severely challenging past teleological perspectives about a theocratic society of "pacific sages" obsessed with time, astronomy and arithmetics while exercising power from "vacant" ceremonial centers that were thought to have followed a straight linear development from modest Preclassic origins onwards, albeit the story that recent hieroglyphic decipherments tell us today develops into a far different one.

Palmer, Ron [243] see Peacock, Evan

Palomo, Juan

[102] *Cutting a Deal with the Ancestors and Gods: Dismemberment and Deposition of Human Remains in the Chasms of Aguateca, Petén, Guatemala*

Excavations in the Grieta Principal and Grieta Rincon of Aguateca, Petén, Guatemala, exposed a considerable quantity of human remains in excellent condition. Osteological analysis of the bones has revealed cut marks on a number of the bones, providing a window into the cultural processes that lead to their deposition in the chasms. In addition to the archaeological data from the site, ethnohistoric and iconographic information are referenced to reconstruct possible activities that took place in the sacred spaces at Aguateca.

Palsdóttir, Albina (The Graduate Center, CUNY), Bjarni F. Einarsson (The Archaeological Office, Iceland), Kristján Mímisson (The Archaeological Office, Iceland) and Steinunn Kristjánsdóttir (National Museum of Iceland and The University of Iceland)

[246] *The Zooarchaeology of Medieval Monasteries in Iceland*

Looking at archaeofaunas from the Skriðuklaustur late medieval monastery in East Iceland and the Kirkjubæjarklaustur medieval nunnery in South Iceland questions of sustainability, environmental impact and religious practises will be addressed. Specifically the possible role of fasting and feasting at the monasteries as they have an unexpected diversity of species present as well as high quality cuts of meat. There is also evidence of fresh fish

being transported to the inland site of the Skriðuklaustur monastery.
[246] *Co-Organizer*

Pane, Mark [311] see Wenzel, Kristen E.

Panhuyzen, Raphael (Faculty of Archaeology), Corinne Hofman (Faculty of Archaeology, Leiden University, The Netherlands), Gareth Davies (Department of Petrology, Vrije Universiteit Amsterdam, The Netherlands) and Menno Hoogland (Faculty of Archaeology, Leiden University, The Netherlands)

[319] *Reconsidering Human mobility in pre-contact Caribbean Communities*

Recently the ideas about settlements and their inhabitants in the Caribbean have changed. No longer are these seen as isolated communities; the outline of a network of settlements involved in the exchange of goods and ideas is becoming evident. The human factor in this process was hitherto difficult to determine. Provenance studies using isotope analysis provide data to establish the proportion of non-local individuals in burial assemblages. This paper will present and discuss the results of strontium (Sr) isotope analysis of human remains from four burial assemblages from Guadeloupe, Saba, Saint Thomas and the Dominican Republic.

Panich, Lee (University of California Berkeley)

[7] *Native Persistence in Colonial Baja California: A Case Study from Mission Santa Catalina*

This poster will present findings from recent research on the Dominican mission site of Santa Catalina. Located in northern Baja California, this mission was home to Paipai speaking neophytes, whose descendants today are one of the few remaining indigenous groups in Baja California. Archaeological research at the site is focused on understanding the persistence of the Paipai identity, particularly with regard to the role of external social and trade relationships as well as the continuation and modification of hunting and gathering practices. Information from historical documents, ethnographic information, and Paipai oral traditions will also be discussed.

Pantel, Agamemnon [54] see Goodman, Dean

Pany, Doris [218] see Viola, Bence Th.

Paradis, Louise (University of Montreal) [14] *Discussant*

Parcak, Sarah (The University of Alabama at Birmingham)

[108] *Developing methods for archaeological site detection in the Middle East*

This paper will present methods for detecting archaeological sites across the Middle East using satellite remote sensing analysis. Detection of sites prior to military conflict will ensure the sites are not harmed or can be given additional protection from looting. The paper will be based on the work of the author in Egypt over the past 7 years in Egypt, where she has discovered hundreds of previously unknown archaeological sites in a variety of landscape types. These landscape types correspond to diverse landscape types across the modern Middle East (desert, floodplain, wadi, urban), and include a number of different archaeological site types.

Parcerizo-Oubina, César (Instituto Padre Sarmiento - CSIC)

[153] *Fortification as a social fact. Processes of social change and resistance in the Iron Age of NW Iberian Peninsula*

Social developments within the Iberian Peninsula comprise different regional trends, that are better understood when considering both processes of social division and resistance. Some areas, like the Northwest, show a wider success of the latter, well into the Iron Age. However, that area is one of those where settlement fortification firstly emerges. The paper will try to approach fortification as a "total social fact", that can contribute to an analysis of the development of social complexity, in parallel to two complementary arguments: the oscillating social trends between change and resistance, and the tensions between domestic (familiar) units and settlement communities.

Paredes Gudino, Blanca (INAH)

[150] *En realidad la antigua Tollan Xicocotitlan fue saqueada, incendiada, y abandonada totalmente?*

Con el presente trabajo se pretende analizar evidencias concretas de supuesto incendio en la ciudad prehispánica de Tula, en el Estado de Hidalgo, a la luz de diferentes exploraciones en diferentes edificios del centro ceremonial, así como también en otros puntos de la ciudad. Punto muy importante para el estudio sobre la ocupación de nuevos grupos que se asentaron en Tula, posterior a la etapa de apogeo de la gran urbe, a quienes se les atribuye su destrucción e incendio.

Paredes-Umaña, Federico (University of Pennsylvania)

[155] *Defining Political Entities in Preclassic Western El Salvador*

In recent years Western El Salvador have been the scenery of major findings that reinforce the development of Complex Societies during the Preclassic Period. International Mesoamerican traditions - such as Izapan style monuments- and local spheres of interaction -represented by the poorly known "Jaguar Head" sculpture style which cover some 3100 sq k east of the Paz river- are to be discussed using current research information while focusing on the political entities that originally gave them meaning.

Parfenov, Stanislav (UCLA)

[28] *GIS Mapping of Viking Age Mosfellsdalur*

Geographic Information Systems (GIS) provide a means of collecting and examining spatial relationships at archaeological sites. In the Mosfell Archaeological Project, GIS has been used in conjunction with historic aerial photography to monitor alterations to the physical landscape of Mosfellsdalur which have occurred with the industrial revolution. This aids the project in predicting the distribution of archaeological sites in the Valley. In addition, analog data gathered in the field has been digitized and mapped, providing a geographic reference for the intrasite distribution of artifacts and site features, enabling us to reconstruct activity patterns and site formation processes.

Paris, Elizabeth (University at Albany-SUNY)

[267] *Cohesion and Diversity in Formative Period Lithic Tools and Techniques: A View from San Estevan, Belize*

During the Formative Period, San Estevan in Northern Belize developed a lithic industry in which a wide range of production and consumption activities took place at the site itself. These ranged from testing raw nodules of chert and chalcedony, to tool manufacture, use, recycling and discard of exhausted tools. Many of the formal tool types are similar, but not identical to those found in contemporaneous deposits at Colha, Cuello, Cerros, K'axob and Pulltrouser Swamp in form and manufacturing techniques. This suggests the integration of regional economic networks, and fluid exchanges of tools and techniques.

[121] *Discussant*

Parisi, Tiffany [297] see Hanna, Jonathan A.

Park, Robert (University of Waterloo)

[72] *Linearity and longhouses in the Dorset culture*

Many sites of the prehistoric Dorset culture of Arctic Canada and Greenland contain two distinctive types of feature: longhouses and hearth rows. Not known from preceding or subsequent Arctic cultures, these features are often interpreted as having been created to house seasonal aggregations where socializing and shaman's performances were important activities. Implicit in most interpretations is that the activities were the cause of the distinctive linear configurations of these features. In fact, the linearity can better be explained in metaphorical terms. The activities at these sites, instead of shaping the features, were shaped by them.

Parker, Christopher (University of Utah Anthropology Department)

[173] *Fire as Cultivator: The Ethnoarchaeology of Burning, Patch Creation, and Plant Domestication*

Human foragers frequently interact with their environment through the deliberate and controlled application of fire to the landscape. This can modify and shape habitats, influence resource availability, and potentially transform entire ecosystems. Here we use evidence from the Australian arid zone and the Northwestern Great Basin to examine how burning is used to reduce search, create patches, and promote the growth of economically important plant resources. Our data indicate that using fire to increase the spatial and temporal predictability of resources can be a production strategy no less ecologically manipulative than those typically associated with farming.

Parker, Christopher [173] see *Bird, Douglas W.*; [173] see *O'Connell, James F.*; [173] see *Trammell, Joshua B.*

Parker Pearson, Mike (University of Sheffield)

[55] *Exploring Stonehenge: the Stonehenge Riverside Project*

Since 2003 a team of researchers from different UK universities has been investigating the context of this Late Neolithic monument to better understand its purpose. Remains of a large village dating to c. 2600-2500 BC, contemporary with the erection of Stonehenge's sarsen stones, raise the possibility that its builders and celebrants lived there, probably on a seasonal basis. The village enclosed a large open space with its own ceremonial focus – a timber circle and associated avenue, both of which were aligned on midsummer and midwinter solstice orientations. Stonehenge now appears to have been part of a much larger complex.

[55] *Co-Organizer*

Parkinson, William (Florida State University)

[15] *Long-Term Social Dynamics and the Emergence of Hereditary Inequality: A Prehistoric Example from the Carpathian Basin*

This paper examines the relationship between the organization of social groups and the emergence of hereditary inequality on the prehistoric Great Hungarian Plain. In contrast to recent models that emphasize the role of individual human agents in enacting social transformations, the model proposed here suggests that changes in household and settlement organization were necessary before hereditary inequality could become formalized and institutionalized during the Bronze Age. A theoretical perspective that deals not only with the role of human agents, but also the long-term trajectory of social organization in a region, is essential for modeling the emergence of 'complexity' generally.

Parks, Shosaunna (Boston University) and Patricia A. McAnany (Boston University)

[282] *Entertainment as archaeological education: MACHI on the radio, television, and theatrical productions*

Despite best intentions, well devised educational programs in archaeology often fail to be effective. Those who develop the projects rarely have the same cultural, educational and economic experiences as those they seek to reach making it difficult for many participants to connect with the past. Education which capitalizes on common forms of entertainment such as radio and television is an ideal way to reach populations both within and outside the classroom or workshop setting. Working with local NGOs, the Maya Area Cultural Heritage Initiative uses entertainment to enact education in the Maya region including radio soap operas and puppet shows.

[282] *Co-Organizer*

Parks, Shosaunna [282] see *McAnany, Patricia A.*

Parry, William (Hunter College CUNY)

[53] *Expedient Lithic Technology From Oldowan To Ethnographic: Some Reflections, Twenty Years Later*

A historical review of the recognition, and increased understanding during the past 30 years, of expedient lithic technologies; and applications of the concept to industries ranging

from Oldowan to ethnographic. How have lithic analysts approached assemblages that lack formal retouched tools with patterned morphologies? A distinction will be drawn between expedient technologies and unpatterned, opportunistic core reduction strategies, which are not necessarily equivalent.

Parry, William [277] see *Glascock, Michael D.*

Parsons, Alexandra (Florida State University)

[21] *The Grand Shell Ring – an Early Mississippian Shell Ring from Jacksonville, Florida*
The Grand site (8DU1) in Jacksonville, Florida is a mound complex containing a sand burial mound and the only known Mississippian period shell ring. Radiocarbon assays indicate that the ring deposit dates to ca. A.D. 1000-1250, which corresponds to the local St. Johns II tradition. This paper provides a general overview of the Grand shell ring and discusses seasonality of the site. Vertebrate fauna demonstrates year-round site usage; however, quahog clams were exploited primarily during the winter and spring. This seasonal pattern of exploitation is similar to other nearby St. Johns sites.

Parsons, Jeffrey (University of Michigan) [277] *Discussant*

Parsons, Timothy (Florida State University)

[160] *Social Change and the Place of Kurgans in Late Copper Age and Early Bronze Age Hungary*

The Late Copper Age and Early Bronze Age on the eastern Hungarian Plain is a time of great social and organizational change. The period is made more interesting by the comparatively straightforward chronology of the Copper Age and the more complex nature of the EBA, as well as the appearance of hundreds of kurgans across the plain at this time. This paper will present a summary of the initial phases of a spatial study aimed at associating the kurgans with specific cultural phases during the LCA and EBA.

[160] *Co-Organizer*

Partlow, Megan (Central Washington University) and Robert Kopperl (Northwest Archaeological Associates, Inc.)

[230] *Processing the Patterns: elusive archaeofaunal signatures of cod storage on the North Pacific coast*

Pacific cod are abundant in eastern North Pacific sites, yet there is little evaluation of potential storage. Examination of skeletal part data from 15 sites spanning 5000 years reveals most exhibit a preponderance of crania, which might be interpreted in the salmon and Atlantic cod literature as consumption of fresh fish plus processing for storage. For Pacific cod, this seems unlikely due to the disconnect between the dominant archaeofaunal pattern and the scarce ethnohistoric record on cod storage. Alternatively, archaeofaunal signatures of cod storage may be obscured by the co-location of processing, storage, and consumption.

Pasacreta, Laura (Donald Luxton & Associates Inc.)

[27] *Overseas Chinese Burial Practices in the Pacific Rim (1850s to 1910s)*

This paper summarizes research since 2001 on the archaeological signature of Chinese burial practices in sites in the Pacific Rim from the 1860s to 1910s. Analysis of material culture and landscape modifications in Chinese cemeteries in the Canadian and American West and the South Pacific has uncovered that ingrained traditional burial rites were modified to include influences of their new home. Further research concluded that Chinese communities were maintaining internal traditional burial rites associated with the placation of ancestors while adopting local symbols, grave markers and cemetery styles for presentation to non-Chinese communities.

Pasacreta, Laura [27] see *Gardner, A. Dudley*

Pascal, Camila (ENAH)

[251] *La Arquitectura de los edificios A, B y D del Templo Mayor de Tenochtitlan*
Los edificios A, B y D, explorados durante los trabajos del Proyecto Templo Mayor en el

año de 1981, se ubican en el Patio Norte del Recinto Ceremonial del Templo Mayor junto con la Casa de las Águilas y el edificio C o Templo Rojo Norte. Mediante esta presentación pretendemos acercarnos a la descripción formal de los edificios y de los sistemas y materiales constructivos que los forman.

Pastrana, Alejandro (INAH)

[150] *Por Que Debemos Estudiar Yacimientos De Obsidiana En Mesoamerica*

En esta ponencia, se presenta una comparación preliminar de los sistemas de explotación, talla y distribución de la obsidiana verde por Teotihuacan, Tula y la Triple Alianza. La evolución de estos sistemas se relaciona directamente con aspectos socioeconómicos básicos, del desarrollo de las sociedades más complejas en Mesoamérica. Sin embargo, las investigaciones arqueológicas actuales que comprenden información sobre yacimientos, no han producido aun información substancial de las formas y estrategias de suministro y distribución de un material básico en la historia de Mesoamérica. Se proponen aspectos fundamentales que deben ser comprendidos en investigaciones sobre este tema.

[32] *Discussant*

Pastrana, Alejandro [248] see Dominguez Pelaez, Silvia

Pate, Donald (Flinders University)

[116] *Prehistoric diet and habitat use in coastal South Australia: An isotopic perspective*

Stable carbon and nitrogen isotopes in human bone collagen provide information about long-term dietary intake and habitat use. Isotope values for Late Holocene archaeological skeletal samples from coastal and inland South Australia are employed to address hypotheses regarding sedentism, residential mobility, and access to foods from various marine and terrestrial habitats.

Patel, Shankari (University of California Riverside)

[23] *Journey to the East: Women's Ritual at Cozumel*

This paper explores Postclassic women's ritual at Cozumel. East coast sites such as Tulum and Santa Rita utilized the International Style, an art style also found at sites in Central Mexico, Oaxaca, the Gulf Coast, and the southern lowlands. While recent models have alluded to the importance of pilgrimage as the medium of exchange of this art style, they have privileged depictions of Quetzalcoatl/K'uk'ulkan and overlooked iconographic depictions and ethnohistoric descriptions of female deities. This paper utilizes ethnohistoric, iconographic, and archaeological evidence to examine women's ritual at Maya east coast and island sites.

Pateman, Michael (University of Cincinnati, School of Planning The National Museum of The Bahamas)

[63] *Prehistoric Use of Caves in The Bahamas*

Early archaeological research in The Bahamas focused on the prehistoric use of caves. Unfortunately most of the data recovered was never recorded scientifically, or published by the original investigator. Recent archaeological surveys in caves have shed new light on the prehistoric Bahamas. The major focus of this paper is comparing the previous excavations to the new, and applying what we have learnt recently, to past surveys.

[63] *Chair*

Patterson, Clifford [144] see Haines, Helen R.

Patterson, Thomas (University of California, Riverside) [40] *Discussant [178]***Patton, A. Katherine and Joan Banahan (University of Toronto)**

[243] "When the Tide is Out, the Table is Set": Pre-contact shellfishing in Prince Rupert Harbour, Northern British Columbia

In this paper, we examine shell remains from villages and camps in Prince Rupert Harbour dated 7700 to 600 B.P. Previous work has emphasized the central role of salmon in the harbour's economy. However, the relative abundance of invertebrate remains suggests the

region's occupants were intensively exploiting shellfish by the Early Holocene and continued into the Late Pre-Contact. We consider several issues of invertebrate exploitation including household organization of shellfish production, transportation and processing costs of shellfishing, and the uses of shellfish in a variety of capacities central to Northwest Coast life.

[288] *Discussant*

Pauketat, Timothy (University of Illinois) [55] *Discussant*

Paulette, Tate (University of Chicago)

[137] *Modeling Bronze Age Northern Mesopotamia: New Layers of Complexity*
The Modeling Ancient Settlement Systems (MASS) project is a collaboration between the Oriental Institute of the University of Chicago and Argonne National Laboratory. Funded by the "Biocomplexity in the Environment" program of the National Science Foundation, the project is building agent-based computer models that simulate human-environment dynamics in Bronze Age Mesopotamia. The well-developed simulation framework for Northern Mesopotamia has, until recently, focused on the fine-scale modeling of agricultural and exchange practices within a small, relatively homogeneous village. This paper will summarize our current efforts to construct multiple-settlement scenarios with more complex forms of political organization, economic dependency, and institutional power.

Pavao-Zuckerman, Barnet (University of Arizona)

[296] *Spanish Colonial Livestock Management Practices at Pimería Alta Missions*
Livestock herds at eighteenth-century Spanish missions were used to feed the mission community, provide surplus to nascent secular colonial entities, and derive secondary animal products for regional markets. The successful management of mission livestock was critical not only to the success of missions, but also to the success of the broader Spanish colonial enterprise. This endeavor was not without significant stumbling blocks. Zooarchaeological evidence from mission sites in southern Arizona, U.S. and northern Sonora, Mexico, indicate that herd management strategies balanced several competing goals and constraints, including economic engagement, sociopolitical constraints, and environmental conditions.

Payne, Andy [55] see *Welham, Kate M.*

Peacock, Evan (Cobb Institute of Archaeology), Bradley Carlock (Mississippi State University), Ron Palmer (Mississippi State University), Weston Bacon-Schulte (Mississippi State University) and Yunju Xia (Mississippi State University)

[243] *Establishing an Elemental Database for Sourcing Shell-Tempered Ceramics via Laser Ablation-Inductively Coupled Plasma- Mass Spectrometry*

Freshwater mussels from different drainages have different chemical signatures. As demonstrated in a recent pilot study, this allows shell-tempered pottery to be sourced by analyzing the chemical content of the temper particles using LA-ICP-MS. One advantage to this approach is that, unlike clay sourcing, the materials necessary for background data already exist in the form of mussel shell excavated from sites across eastern North America. With funding provided by the National Center for Preservation Technology and Training, an effort is underway to chemically analyze shell from different river valleys. Preliminary results from this project are presented.

Peacock, Sandra [175] see *Pokotylo, David L.*

Pearsall, Deborah [244] see *Logan, Amanda L.*

Pearson, Graham [48] see *Hughes, Susan S.*

Pearson, Richard (Sainsbury Institute, UBC)

[226] *Fifth Century Rulers of the Kawachi Plain, Osaka, Japan, and Their Projects*
The Kawachi alluvial plain on the shore of Osaka Bay has been an important center for the

past two millennia. In the 5th century two necropoli of Mozu and Furuichi, containing the world's largest burial mounds, of the Great Kings of Wa, were constructed within 10 km of each other. Evidence of local industry, particularly ceramic production, and regional and international trade in military and ritual equipment is plentiful, and the nature of regional interaction is becoming clear. Judging from the scale of local projects, the area served as the capital of the ancient Japanese state.

Pechenkina, Ekatarina [170] see Dong, Yu

Pechenkina, Ekaterina (Queens College of CUNY) and Xiaolin Ma (Henan Provincial Institute of Cultural Relics and Archaeology)

[22] *Trajectories of Health in Early Farming Communities of East Asia*

Plentiful bioarchaeological studies have documented detrimental effects of maize agriculture on general health and life expectancies in early farming communities in Americas. Millets have similar dietary values to those of maize. However, there seems no clear increase in rates of stress markers in skeletal collections from communities of early millet farmers. Effects of rice agriculture on community health differ considerably depending on environmental settings. In this paper we compare trajectories of health changes in early farming communities of East Asia and discuss the role of secondary subsistence sources, fishing, foraging, and animal domestication on morbidity in early farming villages.

Pedler, David (Mercyhurst Archaeological Institute), Allen Quinn (Mercyhurst Archaeological Institute) and J. Kyle Shelmire (Mercyhurst Archaeological Institute)

[93] *Archaeology at the Scarem-Kramer Site (36WH22), a Scarem Phase Monongahela Village*

The Scarem-Kramer site (36WH22) is a late fifteenth to early sixteenth century Scarem phase Monongahela village overlooking Raccoon Creek in Washington County, Pennsylvania. The site was investigated by Mercyhurst Archaeological Institute in the summer of 2005 via shallow plowing and discing followed by systematic surface reconnaissance and mapping of exposed artifacts and cultural features. The field work revealed a large darkened midden ring and a dense concentration of artifacts distributed over ca. 1.7 acres (6,960 m²). Spatial analyses identified at least three discrete domestic structures within the midden ring itself as well as two additional features beyond the midden.

Peeples, Matthew (Arizona State University)

[100] *Niche Construction and the Long-term Consequences of Agricultural Strategies along the Upland Southwestern U.S.*

Niche construction theory (NCT) provides a useful framework for exploring the recursive relationships between human modifications of their physical environments (both organisms and ecosystems) and human adaptation at multiple spatial and temporal scales. In this paper, I explore the potential causes and long-term consequences of the expansion of maize agriculture into the upland mesa-tops of the Colorado Plateau in terms of NCT. The NCT perspective emphasizes the important inter-connections between local subsistence activities such as land clearing, and large scale processes such as human induced genetic changes in maize and socio-demographic responses to changing agricultural labor requirements.

Pellegrini, Maura [35] see Grimes, Vaughan H.; [35] see Lee-Thorp, Julia A.

Peniche May, Nancy (Universidad Autónoma de Yucatán)

[77] *Género y estatus en la manufactura del papel: Los maceradores arqueológicos del norte de Yucatán*

El objetivo de la ponencia es presentar una propuesta de identificación de los actores sociales, en términos de género y estatus, quienes estuvieron asociados a las diversas tareas relacionadas con la elaboración -desde la recolección de la materia prima hasta la etapa final de su procesamiento-, y el uso del papel. Para ello, los maceradores hallados en diversos sitios del norte de la península de Yucatán y pertenecientes a diferentes temporalidades serán analizados mediante un enfoque conjuntivo que incluye información

etnográfica, etnohistórica y arqueológica.

Perales, Manuel [147] see *Nelson, Katherine*

Perales Munguía, Manuel [131] see *Authier, Martin*

Perdaen, Yves [159] see *Noens, Gunther*

Perdikaris, Sophia (Brooklyn College CUNY) and Thomas McGovern (Hunter College)
[246] *Headless Cod and Tall Tails*

In the past two decades, the archaeology and paleoecology of the North Atlantic have been transformed by a series of major international, interdisciplinary projects. Most have been inspired by the theoretical framework of Historical Ecology (Crumley 1994) in their investigation of the complex interactions of climate, landscape change, and human culture in the region, and all have made geoarchaeology, archaeobotany, zooarchaeology and human osteology part of their fundamental research design. Major regional research foci include culture contact, the impact of climatic fluctuations of the medieval and early modern period, and the varied environmental impacts of imported European agricultural systems upon island ecosystems. The interaction between marine and terrestrial economies is a cross cutting theme that unites virtually all investigations in the region. This paper presents some of the results of this long term international collaboration and makes use of newly available data sets and regional syntheses to provide a broad overview of Norse use of marine resources for subsistence and for exchange in the North Atlantic.

Pereira, Gregory, Christine White (University of Western Ontario), Fred Longstaffe (University of Western Ontario), Michael Spence (University of Western Ontario) and Ximena Chavez (Museo del Templo Mayor, INAH)

[180] *Osteological Analysis of Human Remains at the Moon Pyramid.*

Among the numerous artifacts and osteological remains discovered in Burial 6 of the Moon Pyramid, the presence of twelve human skeletons demonstrates the importance of human sacrifice in the monument's dedicatory offerings. In this presentation, we report on the results obtained through meticulous osteological field recording and bioarchaeological and isotopic laboratory analyses. These data allow us to show that the victims were subject to two distinctive ceremonial treatments. We are also able to characterize aspects of sex, age, and the identity of the individuals involved in this important ceremony.

Peres, Tanya (Middle Tennessee State University), Amber M. VanDerwarker (University of California -- Santa Barbara) and Christopher A. Pool (University of Kentucky)

[279] *The Zooarchaeology of Olmec and Epi-Olmec foodways*

It has been nearly three decades since any substantial works on Olmec zooarchaeology have been published, leaving a void in the recent literature for this important chronological and cultural period in Mesoamerica. This paper synthesizes published studies on Formative (Olmec and epi-Olmec) zooarchaeology along Mexico's Gulf Coast and presents new data from the site of Tres Zapotes. The comparison of faunal assemblages from these important Formative sites (including rural villages and political centers) will greatly enhance the database of Mesoamerican zooarchaeology.

Perez, Arturo, Arnulfo Delgado, Christian Christensen, James E. Brady (Cal State, Los Angeles) and Sergio Garza (U.C. Riverside)

[280] *A Reconsideration of the Relationship of Caves to the Site of Quen Santo*
In the 1890s Eduard Seler investigated the ruins of Quen Santo, Huehuetenango, Guatemala and documented three caves in the barranca below the site. Although he felt that the caves were important, he never presented a coherent statement of their significance. A recent restudy relocated all three caves and reevaluated their function. Seler was overly impressed with the significance of Cave 1 where he discovered monumental sculpture and failed to appreciate the greater importance of Cave 3. We also suggest that the precolumbian artifacts he documented in the "temple room" had probably been brought there in historic times.

Perez, Carlos [107] see Watson, Rachel

Pérez, Gilberto [180] see Sugiyama, Nawa

Perez Perez, Julia [180] see McClung de Tapia, Emily

Pérez Ripoll, Manuel [69] see Aura, J. Emili

Perez Rodriguez, Veronica (Northern Arizona University)

[110] *The Ethnoarchaeology of Traditional Terrace Farming in the Mixteca Alta*
I integrate ethnographic and archaeological methods to learn about traditional terrace farming and its importance for the development and survival of Mixtec civilization. Through this approach we learn how Mixtec people and in particular farmers, have adapted, changed, or maintained their traditional agricultural and landscape-transforming practices to meet changing socio-cultural conditions and political and economic demands. This study focuses on lama-bordo terracing. Ethnographic footage show how today many communities and farmers continue to farm and maintain these terrace systems, keeping alive an ancestral tradition that rests on a rich body of traditional ecological knowledge.

Perlingieri, Cinzia (University I'Orientale of Naples, Italy) [247] *Discussant*

Pernicka, Ernst [272] see Radivojevic, Miljana

Perreault, Charles (University of California, Los Angeles) and P. Jeffrey Brantingham (University of California, Los Angeles)

[137] *Agent-based models of the forager-collector continuum*

Few ideas in hunter-gatherer archaeology have been as enduring as Binford's (1980) contrast between foragers and collectors. The contrast is the basis for numerous hypotheses about archaeological patterning in technological organization, diet breadth, and social organization. While many archaeologists acknowledge, as Binford did, that foragers and collectors lie at the ends of a continuum of possible settlement systems, in practice they have been treated as two discrete adaptive alternatives. The risk with this approach is that much of the potential variability in hunter-gatherer adaptations goes unrecognized. Here we develop a formal spatial model of the forager-collector continuum and explore the quantitative properties of this model strategies using agent-based models.

Perrelli, Douglas [127] see Whalen, Kathryn M.

Perrin, Kathleen (English Heritage)

[65] *A future for the past*

This paper will focus on issues related to archaeological archives within the UK and Europe, including storage, standards, digital archives, curation, conservation and access to the resource. It will show how the work of the UK Archaeological Archives Forum has tackled these issues and how a European working party aims to define a common European standard for archaeological archives, which will form the basis for a Council of Europe monitoring standard. We invite our American colleagues to liaise with the European Working party in order that we can share common ideas and approaches to these issues.

[65] *Co-Organizer [65] Chair*

Perry, Elizabeth (SWCA Environment Consultants)

[20] *Trends in Women's Health and Labor Relations in the Ancestral Puebloan Southwest: A Bioarchaeological Approach*

This paper will track trends in women's health and labor performance from the earliest Pueblo I period villages through the late prehistoric and protohistoric period, drawing on bioarchaeological and ethnographic data. Emphasis is placed on reconstructing the experience of women across time in Pueblo communities through combined bioarchaeological techniques. The bioarchaeological results of multiple studies are used to contextualize the position of prehistoric women in the complex economic and power relations of the Ancestral Pueblo.

Perry, Jennifer (Pomona College)

[152] *Interior Sites on Santa Cruz Island: Terrestrial Resources and Residential Mobility in the Middle Holocene*

As the largest and most diverse of the California Channel Islands, Santa Cruz Island is well-suited for investigating terrestrial resource exploitation. Four sites recently excavated in its Central Valley have yielded insights into what kinds of interior resources were targeted, as well as the nature of residential mobility and population density. Dating to the middle Holocene, these sites were inhabited by seasonally mobile, broad-spectrum foragers who transported shellfish, fish, and sea mammals to interior locales. Reasons for seasonal occupation of the Central Valley and the efforts expended in transporting marine resources are considered, including access to plants and lithic materials.

Perry, Linda (Smithsonian Institution NMNH MSC) and Asunción Cano

[231] *Plant Remains from Quebrada Jaguay, Southern Peru*

This paper will present archaeobotanical data from both the Paleoindian and Archaic occupations of the site of Quebrada Jaguay in coastal southern Peru. Information derived from previous macrobotanical investigations at the site will be discussed in combination with new evidence resulting from the microbotanical starch residue analysis of sediment samples. The contribution of the starch data set toward the understanding of diet at the site will be discussed, and the potential for this technique in collecting archaeobotanical data in similar contexts will be assessed.

Perry, Megan (East Carolina University) and Geoffrey L. Jones (Archaeo-Physics, LLC)

[3] *Exploring ancient cemeteries using ground penetrating radar (GPR): the case of Wadi Ramm, Jordan*

The Nabataean-Roman site of Wadi Ramm in southern Jordan served as a trade and religious center from at least the 1st to 4th centuries A.D. In 2005 we employed GPR to help identify a cemetery associated with the ancient site. Ground truthing of the GPR and reconnaissance survey results in 2007 discovered a number of ancient anthropogenic features, including an ancient cemetery. A number of linear subsurface anomalies explored this season appeared to be natural features, however. This investigation demonstrates the potential and limitations with using GPR to explore ancient cemeteries and architecture.

Persons, A. Brooke [319] see Knight, Vernon

Perttula, Timothy [129] see Ferguson, Jeffrey R.

Pesnichak, Lisa [19] see Lightfoot, Kent G.

Pestle, William [319] see Laffoon, Jason E.

Peters, Ann

[98] *Nasca 1 and the neighbors at Ocuaje*

To evaluate the nature and relationship of occupations associated with the ceramic phases Paracas 10 and Nasca 1 and 2, I re-examine funerary assemblages ascribed to these phases by Menzel, Rowe and Dawson (1964) and Rubini and Dawson (n.d.) at the oasis of Ocuaje, in order to define materials closely related in technique, design and iconography and their gravelot distributions. I will discuss implications for models of social interaction in this period.

Petersen, Peter (Nationalmuseet)

[186] *Music and moose-hunting among the maglemosians*

New finds of animal bone depositions in lake sediments from the early preboreal along with series of AMS C14-datings on maglemosian bone harpoons provides new insights into the hunting methods of the early mesolithic moose hunters in southern Scandinavia.

Furthermore a reinterpretation of two bone artifacts from the Maglemose (locus classicus) site of Mullerup has resulted in the identification of the oldest known examples of man's earliest string instrument – the mouth bow.

Peterson, Christian (University of Pittsburgh)

[22] *Regional Variability in the Earliest Hierarchical Societies of Northern China*

This paper examines the variability to be observed archaeologically in the nature and degree of social inequality in the earliest hierarchical societies of three regions of northern China: the Middle Yellow River Valley, the Lower Yellow River Valley, and the Western Liao River Valley. Analysis of regional settlement survey data and household artifact assemblages, as well as estimates of labor investment in burials and monumental architecture are used to highlight differences between regions in terms of supra-local political organization, social hierarchy, and economic specialization within communities. Explanations for these patterned differences in complex societal development are proposed.

[22] *Co-Organizer*

Peterson, Jane (Marquette University)

[161] *Social differentiation in early agricultural villages: a gendered analysis from the Levant*

The emergence of large farming villages is often correlated with increased social differentiation. Gendered analyses provide inroads through which identity construction and status differentiation are explored. I argue here that there is little evidence to suggest that the early Neolithic societies in the Levant were organized hierarchically in terms of gender. A growing corpus of bioarchaeological research provides considerable insight into the activities and organization of work. In addition well-preserved architecture and numerous figurative representations provide data useful in this investigation.

[166] *Discussant*

Peterson, Polly (Statistical Research, Inc.) and Richard E. Hughes (Geochemical Research Laboratory)

[313] *Implications of Trace Element Analysis of Fused Shale on Models of Obsidian Procurement in Southern California*

Fused shale, a glassy combustion metamorphic rock particular to Santa Barbara and Ventura Counties, can be difficult to visually distinguish from obsidian. Besides macroscopic likeness, trace element analysis shows that fused shale and Obsidian Butte (Imperial County) obsidian share a similar Rb/Sr/Zr elemental signature that may have led to misidentification of material types in previous sourcing research. Recent data indicate that fused shale has been misidentified as obsidian in some coastal assemblages, prompting us to reevaluate the significance of Obsidian Butte glass during Late Prehistoric times in coastal southern California and its impact on extant resource procurement models.

Peterson, Staffan [9] see McGill, Dru

Pettersson, Mattias [159] see Wikell, Roger

Pettigrew, Richard

[142] *A Summary of Investigation at the St. Johns Site*

Excavations at the St. Johns Site (35MU44/46) in northwest Portland in 2003-2004 confirmed that the site was a Chinookan village with houses, occupied shortly before contact. People lived there probably throughout the year and gathered nearby abundant resources, including wapato. At its peak (A.D. 1440 and 1800), it probably housed 200-400 inhabitants. Site abandonment may have occurred following the smallpox epidemic of A.D. 1775, although evidence of this is not conclusive. The St. Johns Site is an important example of late prehistoric and contact-period habitation and land use by the Chinookan people of the Portland Basin.

Peuramaki-Brown, Meaghan (Department of Archaeology, University of Calgary)

[314] *Socio-political identity, ethnicity, and mimesis: A case from the Middle and Late Classic Maya Lowlands*

Recently, numerous scholars have called for the consideration of ethnic variability in the Ancient Maya Lowlands, although many attempts have been seriously criticized and dismissed as unsuitable to archaeological analysis. This paper examines the creation of a

Kaan socio-political identity and possible ethnicity during the political turmoil of the Middle and Late Classic periods in the Maya lowlands, through the investigation of female portraiture on monumental art. Although incorporating traditional notions of ethnicity, I find that Taussig's concept of mimesis provides an enlightening set of theoretical tools in the attempt to understand these modes of Mesoamerican identity formation.

Pevnik, George [24] see *Sidoroff, Maria-Louise*

Pevny, Charlotte (Center for the Study of the First Americans, Texas A&M University)
[42] *Use-Wear Analysis of Clovis Flake Tools from the Gault Site, Texas*

The edge-modified flake assemblage from Texas A&M University excavations at the Gault site, Texas, allows analysis of Clovis flake tool production, use, and discard. It also provides information on site context and Clovis lifeways. Low- and high-power microscopic examination, along with experimental analogs and geologic context at the site permits 1) differentiation between culturally modified pieces and those damaged by post-depositional processes; 2) recognition of tools used for various subsistence activities; and 3) identification of intrasite activity areas. Usewear demonstrates tools were used on a variety of materials, but mainly hard materials such as wood, bone, or antler.

Pfannkuche, Sara (Logan Museum of Anthropology)

[305] *Living on the border: Late mid-Holocene settlement patterns in Southwestern Wisconsin and North-Central Illinois*

Survey, excavation, and collections research have attempted to determine late mid-Holocene settlement patterns in the Pecatonica River valley of north-central Illinois and southwestern Wisconsin. This period corresponds to the end of the Hypsithermal, a time of cultural adjustment to large-scale climatic changes. Groups within the Pecatonica River Valley were well suited to adapt to the changing climate because of the diversity of landscapes within the valley. The presence of both glaciated and non-glaciated landforms and the ecotone of the Prairie Peninsula and Southern Mesic Forest supplied a diversity of resource and settlement opportunities that buffered the effects of climate change.

Phillips, Bruce [111] see *Rogge, A.E. (Gene)*

Phillips, Bruce G. [111] see *Sorrell, Daniel H.*

Phillips, David (Maxwell Museum of Anthropology)

[34] *The End of Casas Grandes*

Charles Di Peso believed that Paquimé, the primary center of the Casas Grandes culture, succumbed to an attack in A.D. 1340. He further argued that the culture survived in the Sierra Madre, where it was encountered by early Spanish military adventurers. Other reviews of the data have come to different conclusions. After summarizing the various positions, I examine the available chronometric data.

Phillips, John [234] see *Zehrt, Claudia*

Phillips, Shaun (Geo-Marine, Inc) and Christian Mears (Geo-Marine, Inc.)

[3] *Screening the TRU data: a Geodatabase Model for Exploration and Analysis*

As survey methodologies increase in effectiveness and surveys gather increasing amounts of data, an efficient means of accessing and analyzing the data becomes the primary concern. The Transect Recording Unit (TRU) methodology at Fort Bliss Military Reservation, in southeastern New Mexico and western Texas, is a cell-based survey methodology that gathers large quantities of data. This paper presents a geodatabase scheme that allows for the easy incorporation, exploration, and analysis of TRU survey data into a GIS. In addition to improvements in management and production capabilities, several potential avenues for analysis are highlighted.

Phillips, Shaun [3] see *Mears, Christian A.*

Phillips, Stephen (University of Washington) and Robert J. Speakman (Smithsonian Museum Conservation Institute)

[241] *Initial source evaluation of archaeological obsidian from the Kuril Islands of the Russian Far East*

Obsidian artifacts have recently been recovered from 16 archaeological sites on 8 islands across the Kuril Island archipelago in the North Pacific Ocean, suggesting a wide-ranging distribution of obsidian throughout the island chain. While there are currently no known geologic sources of obsidian in the Kurils, primary sources are present in Hokkaido, Japan, and Kamchatka, Russia, southern and northern geographic regions respectively from which obsidian may have entered the Kuril Islands. This paper will report on the first-ever sourcing of Kuril obsidian, which is providing data for research questions on prehistoric mobility, exchange, and social networking in the Kuril Islands.

Philpot, Simone [234] see Primrose, Ryan

Phoca-Cosmetatou, Nellie (Keble College, University of Oxford)

[69] *Diversification and specialisation in Late Glacial Italy: can it be a tale of both?*

The focus of this presentation will be the faunal signature from Italy, with particular emphasis on the ungulate prey species. A broad overview across Italy during the Late Glacial will be presented, followed by a more detailed consideration of the organisation of ibex hunting in the mountains in the Northeast of the country. It will be argued that although there is no clear general trend in diversification of the resource base, there are cases of increased specialisation in particular sites and diversification in social organisation and flexibility of mobility patterns.

Picha, Paul (State Hist Soc of North Dakota)

[221] *Whorled World View: Fossil Gastropods and the Northern Middle Missouri Tradition Lifeway*

The 1968-1973 Lehmer-Wood investigations in the Upper Knife-Heart Region provided data documenting artifact content and establishing a cultural chronology for the Northern Middle Missouri Tradition (Ahler 1993; Thiessen 1999; Wood 1986). Thirteen village sites containing shell remains were sampled and studied. Fossil gastropods (Campeloma, Lioplacodes, and Viviparus sp.) occur in the accompanying shell aggregates. Fossil-shell ornament production strategies involve punching, grinding, and scoring. Fossil gastropod remains are hypothesized to serve as concordant cultural affiliation indicators in the Knife-Heart Region. Ahler's (1993) Ethnic Tradition identifications, especially with respect to the Mandans, are supported by the analysis.

Pidruczny, Alice E. [219] see MacDonald, Brandi Lee

Pidruczny, Alice [215] see Michelaki, Kostalena

Piehl, Jennifer [177] see Miller, Katherine A.

Pietruszewsky, Michael [22] see Krigbaum, John

Pigniolo, Andrew (Laguna Mountain Environmental Inc)

[80] *Shifting Technological Boundaries: Implications for Changing Patterns in the Colorado Desert*

The exchange of technology across cultural, physical and competing technological boundaries can be examined in ways similar to the exchange of physical items. Looking at projectile point types as technological markers, variations in frequency and distribution can indicate interaction spheres and rough cultural boundaries. Careful examination of technological boundary shifts across a larger region of southern California and western Arizona can provide models for understanding change in the Colorado Desert where early data may be limited by hydrologic and geophysical sedimentation patterns during the shift from Archaic to Late Prehistoric Periods.

Pigott, Vincent (Institute of Archaeology University College London) [96] *Discussant*

Pike-Tay, Anne (Vassar College), Jillian Garvey (LaTrobe University, Australia) and Richard Cosgrove (LaTrobe University, Australia)

[75] *Zooarchaeology of Late Pleistocene Tasmania*

As a result of their Holocene separation from the rest of Australia, Tasmanian Aborigines have inspired models for reconstructing Pleistocene human behavior. However, recent evidence from sites in southern Tasmania demonstrates a degree of archaeological richness and complexity not recorded previously in Australian Pleistocene sites. We review results of our recent analysis of the archaeofaunal assemblages from four southwest Tasmanian sites representing different paleoenvironments. While results of our taphonomic and odontochronological studies are emphasized, our goal is to provide a picture of current human paleoecological research in Pleistocene Tasmania.

Pilaar, Suzanne (Rutgers University) and Melinda Zeder (Smithsonian Institution)

[315] *Sheep and Goat Domestication in the Eastern Fertile Crescent: The Application of Dental Aging Techniques to Documenting Domestication*

The Zagros Mountains are home to prime assemblages of sheep and goat remains which offer evidence of the transition from hunting to herding and early livestock domestication. This study focuses on constructing age curves which reflect a demographic shift typical of herd management using dental remains from the sites of Ganj Dareh, Ali Kosh, and Tepe Sabz. Standards for determining sex, taxa, and age based on dentition are evaluated using modern specimens and applied to archaeological remains. Dental age curves are then compared to postcranial demographic profiles to determine the validity of dental aging as a reliable method for documenting domestication.

Pillsbury, Joanne

[13] *The Rashomon Effect and the Uses of Documentary Sources for Andean Archaeology*

This paper is concerned with colonial documentary sources and their use in Andean archaeology. Here the term "Rashomon effect" is applied in a broad way to consider problems in the creation of competing narratives. At the crux of the debate are chronicles and other sources which reflect not only conflicting perspectives and memory, but also competing agendas. This paper will address approaches to the contextualization of key sources and the challenges of gaining a deeper understanding of the intentions behind these historical narratives.

Piro, Jennifer (New York University)

[296] *Pastoral Economies in Early Transcaucasian Communities*

The Early Transcaucasian Culture complex emerged around 3500 B.C. and rapidly spread throughout the southern Caucasus, eastern Anatolia, northwestern Iran, and even as far as the Levant. Many researchers have suggested that a form of mobile pastoralism facilitated the dispersal of the ETC complex. Using zooarchaeological evidence, this paper instead argues that settled agro-pastoralism served as the economic base of some ETC communities, where the primary goal was to minimize risk and uncertainty. The faunal remains from the sites under investigation demonstrate that herd security and subsistence diversification were two key strategies aimed at reducing risk in the ETC economy.

[296] *Co-Organizer*

Pitblado, Bonnie (Utah State University), Christopher Merriman (University of New Mexico) and Michael McFaul (LaRamie Soils Service, Inc.)

[184] *Prospecting for Paleoindian Sites in Southeastern Idaho*

This paper reports on 2007 archaeological reconnaissance conducted to evaluate the potential for implementing a Paleoindian research program in southeastern Idaho. Our interdisciplinary team took a three-pronged approach to probing the Paleoindian record of part of the ecologically rich but archaeologically poorly documented ecotone of the Columbia Plateau, Great Basin, and Rocky Mountains. We completed a broad-brush geoarchaeological assessment, examined private artifact collections, and conducted limited survey of landforms with potential to yield early sites. We discuss these avenues of investigation and our conclusion that the region has significant potential to reveal functionally diverse early through late Paleoindian sites.

[184] *Co-Organizer*

Pitblado, Bonnie [9] see Simms, Steven R.

Pitcavage, Megan (University of California, San Diego)

[197] *The Mortuary Population of the Kingdom of the Avocado; A Demographic and Paleopathological Analysis from Pusilhá, Belize*

This paper examines the Late and Terminal Classic period assemblage of human remains from the ancient Maya site of Pusilhá, Belize. Evidence related to general health, biocultural practices and burial patterns will be addressed. Of particular note is that the sample includes the remains of a specific ruler at the site, Ruler G; the only instance in Belize to date where human remains have been identified as a named historic individual. Finally, the results from Pusilhá will be placed into the wider context of ancient Maya health and cultural practices through comparison with other Late and Terminal Classic mortuary populations.

Pittman, Holly (University of Pennsylvania)

[64] *Middle Asian Interaction Sphere and the Iranian Plateau*

This paper will summarize the material culture evidence for the Middle Asian Interaction Sphere found at sites in Mesopotamia and on the Iranian plateau. It will consider the east west overland routes of interaction with reference to sea routes and the north-south routes that connected Central Asia into the system. It will consider the degree to which sites on the Central Plateau provided raw materials that served to drive a system of interaction and will conclude with a consideration of the degree to which third millennium "interaction" was "intercultural" in its nature.

Pitulko, Vladimir

[245] *Humans in Arctic Russian Beringia before the Last Glacial Maximum: Defining the Yana Culture*

Yana RHS, discovered in 2001, is the northernmost Paleolithic site known in the world. This frozen but stratified site contains a well-preserved cultural layer 14C dated to about 28,000 years ago. In this paper, we discuss the peculiarities of the site's artifact assemblage, which we call the Yana culture. Yana predates sites of the Diuktai culture, and it does not contain diagnostic artifacts of Diuktai, like bifaces, wedge-shaped cores, and microblades. Yana likely represents a different cultural phenomenon, one left behind by a distinctive human population that existed in arctic Beringia before the last glacial maximum.

Plis, Laura [216] see Elliott, Elizabeth M.

Plisson, Hugues [115] see Dubreuil, Laure

Plog, Steve (University of Virginia) [283] *Discussant*

Plourde, Aimee (Centre for the Evolution of Cultural Diversity) and Cecilia Chavez (Programa Collasuyo)

[58] *El Desarrollo del Complejo Ceremonial Formativo en la Cuenca Norte: Evidencias Nuevas de los Sitios Anta Moc'o y Huayra Mocco*

Recent research in the northern Titicaca Basin has forced us to substantially alter our understanding of this region's prehistory. Our work in Taraco provides new, striking data on the development of sunken court architecture, and by extension on the development of the politico-religious system, one of the most characteristic features of the Formative Period. We present results of the 2007 excavations at Huayra Mocco and discuss the implications of these in conjunction with findings from previous years' work at Anta Moc'o for the nature and evolution of ceremonial architecture from the Middle Formative - Huaña Polities.

Plourde, Aimée [309] see Glatz, Claudia

Plourde, Michel (Université De Montréal) and Laure Dubreuil (Laval University)

[189] *A technological and functional study of macro-tools in the Saguenay-St.Lawrence region: Some thoughts on the evolution of subsistence patterns during the Late Woodland*
The seal has been an important resource for the prehistoric populations that lived at the mouth of the Saguenay River (Quebec, Canada) since the Early Archaic. During the Late Woodland (1000-1534 AD), sites spread along the St. Lawrence estuary remained strongly associated with hunting activities with little evidence of change in subsistence, which contrasts with the importance of corn observed in more southerly regions. Macro-tools, such as grinding stones, may document changes in diet. We present here a preliminary study of two sites that focuses on how these tools were produced and used.

Pluckhahn, Thomas (Department of Anthropology, University of South Florida) and Richard Estabrook (University of South Florida/Florida Public Archaeology Network)

[148] *Integrating Local and Regional Social Processes in the Understanding of Weeden Island Complexity*

Weeden Island has long been recognized as an example of precocious sociopolitical complexity. Recent interpretations of Weeden Island minimize its coherence as a regional tradition and de-emphasize larger-scale social processes, in favor of a model of autonomous villages comprised of individual lineages. We argue that the prevailing models of Weeden Island organization are incomplete; the lineage model, in emphasizing local autonomy, does not provide a mechanism to account for the similarities that developed across the region. Such similarities are better explained through the existence of social relationships that cross-cut lineages and villages.

Plummer, Tom [238] see Ferraro, Joseph V.

Plunger, Elizabeth [232] see Goldstein, Paul S.

Plunket, Patricia [138] see Urunuela, Gabriela

Pobiner, Briana (Smithsonian Institution)

[238] *1.5 Ma Modified Bones from Koobi Fora: Insight into Early Hominin Carcass Processing Behavior*

1.5 Ma Okote Member archaeofaunas from two areas of Koobi Fora (Ileret Ridge: GaJi14; Koobi Fora Ridge: FwJi14A, FwJi14B), northern Kenya, demonstrate variability in early hominin butchery behavior. Both individual specimen- and assemblage-level analyses of the 292 cut-marked and 27 percussion-marked faunal specimens indicate similar butchery strategies at these sites, with butchery of both high and low ranked skeletal elements and no apparent preference for prey size, skeletal region, limb class or portion. Both GaJi14 and FwJi14 lack stone tools while FxJi50, an Okote Member site on the Karari Ridge, preserves fewer butchered bones and over 1,500 lithics.

Pobiner, Briana [238] see Ferraro, Joseph V.; [6] see Kovarovic, Kris

Poe, William (Sonoma State University)

[309] *Chalcolithic pottery from El Khalil (Hebron) Palestine*

During the 1964 season of An American Expedition to Hebron a living cave was excavated on the western slopes of Jebel el-Rumede. The lower occupation levels of the cave were sealed by a hard packed floor with a hearth and relatively sparse ceramics none of which are more recent than Early Bronze. Lower strata in the cave represent Chalcolithic occupation with a large quantity of ceramics similar to those found in the Ghassulian complex. This ceramic tradition is rarely found in the hill country of Judah. Despite the time since discovery, this material has not previously been made public.

Pohl, Christie (Peabody Museum of Archaeology and Ethnology, Harvard University), Greg Hodgins (University of Arizona Accelerated Mass Spectrometry (AMS) Facility), Harriet (Rae) Beaubien (Smithsonian Museum Conservation Institute) and Robert J Speakman (Smithsonian Museum Conservation Institute)
[167] *Cyclododecane: Does this subliming fixative for archaeological materials affect 14C dating?*

Since the mid-1990's, volatile organic binding media have been researched and tested for their applicability within the field of conservation. Cyclododecane (CDD) is a cyclic hydrocarbon that sublimes over time and has increasingly been used in the field for stabilizing and lifting fragile archaeological materials. Because of its eventual volatilization, CDD is considered an appealing alternative to conventional organic consolidants. This study investigates CDD's effect on the 14C dating of archaeological substrates and takes a closer look at potential carbon-containing additives and impurities within different CDD batches.

Pohl, Mary (Florida State University) and Daniel Seinfeld (Florida State University)

[314] *Applying Concepts of Mimesis and Alterity to Ancient Mesoamerica*

This paper will define and discuss Michael Taussig's concepts of mimesis and alterity. We will analyze how researchers have applied these ideas in the past and evaluate their present application to Mesoamerican archaeology as exemplified by papers in this session. This presentation will focus on how mimesis and alterity work together in prehistoric ritual and identity formation.

Poinar, Hendrik (McMaster University), Regis Debryune (McMaster University) and Ross MacPhee (American Museum of Natural History)

[256] *Archeogenomics*

New genomic sequencers allow a true glimpse onto the few preserved DNA molecules left in fossils and archeological remains. I will discuss the new opportunities afforded with these techniques as well as their limitations and the possibility of reconstructing entire genomes of extinct organisms and our direct ancestors.

Pokotylo, David (University of British Columbia), Brian Kooyman (University of British Columbia) and Sandra Peacock (University of British Columbia)

[175] *Black Holes in Canadian Plateau Archaeology*

This paper reports on recent research in Upper Hat Creek Valley, BC, where the discovery of root roasting features 30 years ago prompted Plateau archaeologists to consider root foods in models of cultural development. Studies of Canadian Plateau earth ovens suggest periods of intensified root use over the last 3000 years, and raise the question of why such intensification occurred and the role of root foods – and the carbohydrates they provide – in the emergence of complex hunter-gatherers in the region. We integrate recent data from the White Rock Springs site with previous work in the valley.

[151] *Discussant* [293] *Discussant*

Polaco, Oscar J. [32] see Arroyo-Cabral, Joaquin

Pollock, Adam [234] see Macrae, Scott A

Pool, Christopher A. [279] see Peres, Tanya M.

Pool, Christopher (University of Kentucky)

[279] *Contexts for New Research in Southern Veracruz*

This paper provides conceptual and practical contexts for the other papers in this session with a critical overview of the current state of archaeological research in southern Veracruz. Theoretical, culture-historical, and methodological issues are addressed, drawing on the author's 25 years of experience in the region.

[227] *Discussant*

Pool, Christopher [279] see Knight, Charles

Pool Cab, Marcos (Universidad Autónoma de Yucatán)

[77] *Etnicidad en Arqueología. Una Aproximación Teórica Metodológica para el Área Maya*
El registro arqueológico manifiesta que el área maya tuvo una gran relación comercial con otras áreas culturales durante la época preespañola. La diversidad cultural se manifiesta en objetos como la cerámica, las formas en la apropiación de los espacios, los contextos ceremoniales, etc. En el presente trabajo, dicha diversidad cultural pretende ser estudiada mediante el análisis y la reflexión de lo étnico, como una categoría analítica que nos puede ayudar entender las diferentes identidades que entraron en contacto, provocado en gran medida por las relaciones comerciales.

[77] *Co-Organizer*

Popelka-Filcoff, Rachel (NIST), J. David Robertson (University of Missouri-Columbia), Michael Glascock (University of Missouri-Columbia) and Patti Wright (University of Missouri-St. Louis)

[167] *Neutron Activation Analysis (NAA) of Iron Oxide Artifacts from St. Charles and St. Louis Counties, Missouri*

Recent studies have characterized iron oxide sources and artifacts using instrumental analytical methods. Iron oxide pigments and tools were sampled from sites in St. Charles and St. Louis counties, Missouri. The samples were characterized by neutron activation analysis (NAA) to understand which iron oxide materials were used throughout the prehistoric period and whether particular sources of iron oxides were chosen for specific purposes. The data indicate that specific hematite material was used for tools, which differs from material used in pigments. Iron oxide artifacts from the sampled sites have different elemental signatures than previously characterized iron oxide source material from southeastern Missouri.

Poplin, Eric (Brockington and Associates Inc), Andrew Agha (Brockington and Associates, Inc.), Colin Brooker (Brooker Architectural Design Consultants) and Nicole Isenbarger (Brockington and Associates, Inc.)

[63] *Investigation of John Moultrie's Belle Vista Plantation, South Ocean Resort, New Providence*

Intensive archaeological survey of a portion of the South Ocean Resort, New Providence, revealed the extent of the extant facilities associated with John Moultrie's Belle Vista Plantation (Site NP 18), later owned by James Moss. Archival research provides support for the interpretation of the buildings ruins in two settlement areas. Detailed mapping of stone walls provide an outline of the Loyalist era landscape associated with Belle Vista. Artifacts, layout, and construction techniques are compared to the results of earlier investigations at NP 18 and similar information from nearby Clifton Plantation.

Popov, Vladimir [245] see Speakman, Robert J.

Popova, Laura (Arizona State University)

[229] *Military Confederacy or Egalitarian Polity? The Difficulty of Reconstructing Politics in Ancient Pastoral Societies*

Although the literature concerning modern pastoralists often centers on politics, archaeologists tend to gloss over the issue. For example, archaeologists of Eurasia often connect burial type with certain forms of politics, associating kurgans devoted to an individual or family with a hierarchical political structure and relating kurgans that contain a representative sample of the population with egalitarianism. This method for determining politics ignores the questions of land tenure and land use that are often more vital to understanding pastoral politics. This paper will bring together archaeological and environmental data to provide a different picture of politics in Bronze Age Eurasia.

Porcasi, Judy [36] see Jones, Terry

Porter, Benjamin (Princeton University) and Bruce Routledge (University of Liverpool)

[268] *Religious Heterodoxy and Rural Hybridity across the Middle Islamic Dhiban Plateau (Jordan)*

With the installment of Muslim power under the Ayyubid and Mamluk empires in the mid-thirteenth century, Islamic institutions and practices were introduced into the Levant following two centuries of medieval Crusader rule. The Dhiban Plateau, a relatively isolated cross-section of modern Central Jordan, presents an interesting context in which to investigate how rural agricultural communities took up these elements of Islamic piety and combined them with previous modes of religious expression. This paper draws on models of hybridity, syncretism, and heterodoxy to inspire more nuanced interpretation of religious identities and practice during the Middle Islamic Period.

Portillo, Marta (University College London, Institute of Archaeology), Arlene M. Rosen (Institute of Archaeology, University College London) and Mina Weinstein-Evron (Zinman Institute of Archaeology, University of Haifa)

[115] *Plant uses at el-Wad terrace (Mount Carmel, Israel): The phytolith evidence*
El-Wad is one of the larger Natufian base camps of the Mediterranean core-area.

Quantitative, morphologic and morphometric analyses of phytoliths was conducted there to identify the plants used in specific archaeological context. The results show that poid grasses dominated the phytolith record. High concentrations of phytoliths from grass leaves and stems suggested dwelling remains, an important element of Natufian plant exploitation. Phytoliths also indicated that wood and bark were the second most abundant form of vegetation preserved in the site. This study provides new data about Natufian populations on the threshold of early food producing communities in the Levant.

Posnansky, Merrick (University of California, Los Angeles)

[76] *Entering a Global World - Imperialism and Power in late 19th Century Uganda: an archaeological perspective*

Globalization is somewhat synonymous with Imperialism in Northern Uganda. Uncontrolled exploitation of ivory and slaves led to the introduction of a British presence controlling an Egyptian military. For 30 years a series of Europeans, Samuel Baker, Charles Gordon and Eduard Schnitzer (Emin Pasha) established more than 20 military stations in the southern Sudan and northern Uganda. Test excavations have been conducted at 3 sites. Power was exercised through a predatory military presence but assimilation into the local community was a necessity and is reflected in the archaeological record. There is a great potential for Imperial Archaeology in East Africa.

[182] *Discussant*

Possehl, Gregory (University of Pennsylvania)

[64] *The Bactria-Margiana Archaeological Complex and the Greater Indus Valley*

During the late third and early second millennia artifacts that can be associated with the Bactria-Margiana Archaeological Complex (BMAC) are found through-out the Greater Indus Valley, Baluchistan and possibly even southern Rajasthan. This paper explores the history of interaction between these two regions, which begins in the fourth millennium BC. It then outlines the corpus of BMAC and related finds from the Greater Indus Valley and Baluchistan, and their archaeological context.

[64] *Co-Organizer*

Post, Stephen [103] *Discussant*

Potter, Ben (University of Alaska Fairbanks)

[275] *Understanding Assemblage Variability in the Alaskan Subarctic: Beyond Type*

Traditional cultural historical methods of identifying and mapping the temporal and spatial distribution of so-called diagnostic artifact types have been relatively unproductive in Subarctic Alaska. Archaeological assemblage variability must be understood in the context of other independent variables. This paper presents results from modeling exercises that (a) use data from a large number of dated components in Interior Alaska, (b) provide a system for testing hypotheses about assemblage variability, site function, and cultural

change, and (c) enable an exploration of the data from a framework of recognizing patterns as they relate to subsistence and settlement strategies mediated by technology.

Potter, Ben A. [220] see *Bowers, Peter*

Potter, James

[20] *The treatment of others: mortuary, taphonomic, and cultural variation in early Pueblo I communities*

The Animas-La Plata Project in Southwest Colorado encountered numerous human remains associated with some of the earliest villages in the northern Southwest, including an assemblage of heavily processed remains containing over 9,000 fragments. This paper will explore variation in the treatment of human remains in early Pueblo I communities in the northern Southwest and address issues of cultural diversity, identity, and violence in these early villages.

Potter, James [222] see *Knight, Terry*

Potts, Daniel (University of Sydney)

[64] *Middle Asian Interaction Sphere - discussant*

Serving as discussant for a session on the Middle Asian Interaction Sphere, a concept designed to describe the web of interactions linking the Indus Valley, Central Asia, eastern Iran and the Persian Gulf, principally in the mid-late 3rd millennium BC.

[64] *Discussant*

Potts, Richard (Smithsonian Institution, Human Origins Program) [238] *Discussant*

Poupeau, Gérard [241] see *Lugliè, Carlo*

Powis, Terry G. [181] see *Healy, Paul F.*

Pozorski, Shelia and Thomas Pozorski (University of Texas-Pan American)

[232] *Cottage Industry, Household Ritual, and Subsistence Exchange at 1500 BC on the North Coast of Peru*

Residential architecture, associated artifacts, and midden are vital components rarely preserved at early sites. This makes the domestic components at Initial Period (2100-1000 BC) Casma Valley sites especially significant. This occupation dates very early, and it also provides key evidence regarding the political and economic structure of the Sechin Culture, a valley-wide polity that constructed the largest corporate labor architecture in the New World at 1500 BC. Associated remains document a closely-administered inland/coastal subsistence exchange system, textile production and other manufacture through cottage industry, possible household ritual as evidenced by ceramic figurines, and a continuum of status differences among households.

Pozorski, Thomas [232] see *Pozorski, Shelia*

Prager, Christian (Institut Für Altamerikani)

[197] *Pusilha and Its Neighbors: Hieroglyphs and History*

Southern Belize and its Prehispanic cultural remains have become the focus of thorough archaeological and epigraphic research during the last decade. The topic of my presentation is a summary of the authors updated views and interpretation of the hieroglyphic inscriptions from the Classic Maya center of Pusilha, Belize, and its neighboring sites in the adjacent regions. My contribution is concerned primarily with the reconstruction of Pusilha's local dynastic and political history as recorded on its numerous carved limestone monuments that have documented and published by the members of the Pusilha Archaeological Project so far.

Prasciunas, Mary (University of Wyoming)

[53] *Clovis Technological Organization at the Sheaman Site, Eastern Wyoming: An Assemblage Level Test of the High-Tech Forager Hypothesis*

Although traditional interpretations of Paleoindian technological organization are framed within the "high-technology forager" model, recent critiques suggest that few sites actually satisfy the model's archaeological predictions. However, the high-tech forager model was designed to explain the technological strategies of only the earliest occupants of North America, and the applicability of the model to Clovis technology has not been explicitly tested. This paper provides an assemblage level test of the high-tech forager model using the lithic assemblage from the Sheaman Clovis site in eastern Wyoming. The assemblage fulfills the model's expectations, and appears unique in many ways compared to later Paleoindian manifestations.

Prasciunas, Mary [184] see Kelly, Robert L.

Premo, Luke (Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology)

[137] *Routed foragers, favored loci, and environmental fragmentation: an ABM of Type C assemblage formation*

Glynn Isaac defined concentrations containing the bones of multiple animal species and Lower Paleolithic artifacts as Type C assemblages. These have been explained variously as the remains of home bases, central places, stone caches, defensible positions, and favored loci. In this paper, I investigate the proposition that Type C assemblages could result from nothing more complicated than repeated visits to favored loci comprised of patches of closed habitat (i.e., woodlands). I use an agent-based model to study the effect of environmental fragmentation on the spatial correlation of bones and stone artifacts in the artificial archaeological landscapes created by routed foragers.

Prentiss, Anna (University of Montana)

[19] *Culture Change in Hunter-Gatherer Societies: Implications of the Macroevolutionary Model*

Macroevolutionary culture theory, as explicated by Chatters, Prentiss, Rosenberg, and Spencer, offers powerful implications for understanding long term change in human societies on all scales. The archaeological record of hunter-gatherers in northwestern North America offers particularly clear windows into these processes of change. This paper outlines a basic macroevolutionary model and then considers its implications with emphases on hierarchy theory, multi-level selection, historical contingency and structural constraint. Arguments are illustrated using examples from interior British Columbia where large aggregate villages featuring hereditary status inequality emerged during the past 2000 years.

Prentiss, Anna [193] see Goodale, Nathan B.; **[172]** see Carlson, Eric S.

Prentiss, Anna M. [172] see Crossland, Nicole A.

Price, Douglas [134] see White, Christine D.

Price, Franklin

[287] *Fresh from the Sea: The Recovery of Prehistoric Artifacts by Maine Fishermen*
In 2006 and 2007 the author undertook the Blue Hill and Frenchman Bay Fishermen Interview Project, interviewing some of the region's commercial fishermen and divers to obtain the locations of submerged cultural resources in a section of Downeast Maine. The survey revealed over 100 instances of potential historic and prehistoric sites, most notably the recovery locations of several prehistoric artifacts dated at 6,000 to 8,000 BP. The volume of information acquired underscores the value of using the knowledge of fishermen and mariners as a resource, and suggests that further research along this line is not only valuable but essential.

Price, Mary (SUNY Binghamton)

[104] *Refuse Disposal Practices in Terrace Contexts and Their Implications for Residential Organization at Cerro de las Trincheras, Sonora, Mexico*

Dry-masonry terraces formed the basis for residence at Cerro de las Trincheras, a late prehistoric hill town in Sonora, Mexico. Analytically, the terraces represent palimpsests of a range of cultural practices and site formation processes. Living, working and disposing of waste on a hill constrains and enables the ways residents use space. For archaeologists working to identify residential groups, these forces pose interesting interpretive challenges. Using ethnographic and site data, this paper examines excavated terraces as loci for refuse creation, disposal and reuse and discusses the impact of these practices for the study of residential group organization.

Price, Sarah [93] see Herrmann, Nicholas P.

Price, T Douglas (University of Wisconsin)

[186] *The European Mesolithic*

The Mesolithic of Europe is manifested in different ways in various parts of the continent. The variation that is seen is one of the hallmarks of this period. This presentation will consider some of the variability in light of the papers presented in the symposium and attempt some generalizations regarding the adaptations of these Holocene hunter-gatherers prior to the arrival of the Neolithic and food production.

[35] Co-Organizer

Price, T. Douglas [35] see Burton, James H.; [213] see Freiwald, Carolyn R.; [291] see Gestsdóttir, Hildur

Prieto, Gabriel (Pontificia Universidad Católica del Perú)

[232] *Una Residencia de Elite Lambayeque en San José de Moro*

Durante 2006 y 2007, el Programa Arqueológico San José de Moro, dirigido por Dr. Luis Jaime Castillo de la Pontificia Universidad Católica del Perú realizó excavaciones en área en uno de los montículos ubicados en la zona sur del sitio. Como resultado de estas investigaciones se registró un complejo arquitectónico que fue utilizado para la residencia permanente de un grupo de elite del periodo Lambayeque Medio. En esta oportunidad, se presentarán los contextos y objetos asociados a este conjunto con el objetivo de aproximarnos a las actividades desarrolladas en el y a la dinámica espacial durante su época de vigencia.

Prikhodko, Sergey V. [157] see Kakoulli, Ioanna

Primrose, Ryan and Simone Philpot (Concordia University)

[234] *Water Management at Minanha, Belize*

A stable, clean source of water is of utmost importance to all people. The region surrounding the ancient Maya centre of Minaná on the Vaca Plateau, in the Cayo District, Belize, is almost completely bereft of surface water. Despite this the Minaná Maya were able to create a sustainable water management system that was likely centralised and largely reliant on a single feature, the Mayo Aguada. Investigations into Minaná's water management system began in 1999 and continue through 2007. The results of the past eight years of research into the water management system of Minaná will be discussed in this paper.

Prince, Paul (Grant MacEwan College)

[230] *Indirect Evidence for Salmon Productivity and Harvesting Strategies in the Skeena and Nass River Systems*

While the coast has diverse marine resources, on the vast interior stretches of Pacific Northwest rivers, salmon was and is the critical resource for over-wintering. Significantly, in these areas, salmon are not equally abundant, attainable or predictable, and conditions of preservation and site visibility drastically affect our ability to assess the importance of this resource. Here I review some of the artifacts, features and site characteristics that have been causally used to argue for intensive salmon fishing in the Skeena and Nass River

systems, and argue such evidence has been underutilized for interpreting long-term fisheries management strategies and associated practices.

Pring, Duncan [181] see *Valdez, Fred*

Pritchard, Christy (Florida Public Archaeology Network, NE Center) and Sarah Miller (Florida Public Archaeology Network)

[293] *Going Public!: Archaeological Literacy in Northeast Florida*

This paper will highlight the Princess Place archaeology education program in Flagler County that works towards educating high school students as to what archaeology is, what archaeology sites are within their own community, and how they as citizens can participate in studying and preserving this resource. Contact with the students has generated interest in archaeology beyond the classroom, reaching elected officials within the county government. Our overall goal is realized as students become more involved in their community and as the policy makers attain the knowledge they need to make informed decisions regarding cultural resources.

Proulx, Donald [98] *Discussant*

Proust, Jean-Noël [75] see *Shi, Benheng*

Pruett, Candace [253] see *Robichaux, Hubert R.*

Prufer, Keith (University of New Mexico)

[197] *What do we really know about the archaeology of Southern Belize? New perspectives on 100 years of survey and excavation*

Starting with the British Museum, at least four generations of archaeologists have attempted to understand the role of southern Belize in the development and decline of lowland Maya polities. Though rich in sites, texts, and evidence of trade, the region has always appeared enigmatic due to its diminutive architecture, geographic isolation, and seemingly late chronology. The last decade of research challenges many earlier assumptions and poses many new questions regarding the emergence, growth, and collapse of several markedly different political centers.

[280] *Discussant [197] Co-Organizer*

Prufer, Keith [197] see *Schrag, Amber C.; [197] see Culleton, Brendan J.; [197] see Moyes, Holley*

Pryor, John [7] see *La Jeunesse, Roger*

Pugh, Timothy (Queens College and The Graduate Center)

[233] *Elite Uses of Spanish Material Culture in Contact Period Petén, Guatemala*

Elite groups often use long-distance objects as symbols of power and foundations of community identity. The efficacy of such materials may be derived from their singularity and/or the distance of their origins, which imbues them with "supernatural" qualities. This paper explores how the Kowoj elite who occupied Zzapetén, a Contact period (AD 1525-1697) site located in Petén, Guatemala, utilized Spanish material culture, such as iron and lead, in ritual events. It is suggested that the Kowoj used Spanish Colonial objects in a manner similar to how they used long-distance materials from Central Mexico.

Pullen, Dan [39] see *Boulanger, Matthew T.*

Pullen, Daniel (Florida State University) [39] *Discussant*

Punke, Michele (Archaeological Investigations Northwest, Inc.)

[188] *Geoarchaeological Field Investigations at 35MU4, Sunken Village, Sauvie Island, Oregon*

Geoarchaeological investigations were conducted at 35MU4 in order to reconstruct the depositional setting evolution of the site. Sediment stratigraphy and diatom biostratigraphy

vary across the site vertically and horizontally, and the exact nature of these stratigraphic changes was investigated through the analysis of test units, pit features, profile descriptions, and extracted sediment cores. Distinct changes in strata morphology and constituent sediments allowed for the creation of a representative east-west cross section of the site. This cross section aided in the interpretation of original depositional conditions and helped determine the extent of destruction and preservation of cultural strata.

Punzo, Jose (Instituto Nacional de Antropología e Historia) and Ángel Ramírez Luna (Instituto de Geofísica, Universidad Nacional Autónoma de México)**[185] The Chalchihuantes Chronology Revisited**

During the recent excavations in the Guadiana valley, in Durango, México, we recovered the whole ceramic series of decorated wares for the Chalchihuantes Culture Guadiana branch. These samples were dated by the fine grained thermoluminescence method. That let us review the controversial chronology made by Charles Kelley in the 1970's and 1980's. This work provides the largest series of dates, obtained by absolute methods, for the Chalchihuantes Culture Guadiana branch. This new data allows us to propose a more reliable chronology for the area.

Pursley, Roc [88] see Gardner, Karen S.

Puseman, Kathy (Paleo Research Institute), Linda Scott Cummings (Paleo Research Institute) and Thaddeus Swan (Department of the Army - DECAM)**[66] Pollen, Macrofloral, and Fourier Transform Infrared Spectrometry (FTIR) Analyses at Skeeter Shelter, Site 5EP46, Colorado**

Skeeter Shelter, site 5EP46, is a small rock shelter on the Ft. Carson Military Reservation south of Colorado Springs, Colorado, that was occupied from 1560 ± 150 to 935 ± 80 RCYBP. Pollen and macrofloral analyses suggest that the shelter occupants utilized maize, acorns, several types of seeds, and a variety of fruit/berry resources. Pieces of charred plant tissue were examined using Fourier Transform Infrared Spectrometry (FTIR). FTIR spectra for pieces of parenchymous tissue were similar to that from starchy tissue, indicating that the parenchymous tissue was derived from root tissue and suggesting processing of root resources.

Pye, Jeremy**[130] Below the Sod: A Geophysical Survey of a Rural Oklahoma Cemetery**

In March of 2007, a geophysical survey was conducted in Diamond Cemetery, Stephens County, Oklahoma. Multiple geophysical techniques were employed, including GPR and electrical resistance, in order to survey a 60 x 100 meter area that encompasses the majority of the cemetery. There were 157 marked graves recorded during fieldwork, however count discrepancies between previous gravestone recording surveys and the present markers, as well as distinct surface anomalies suggested that unmarked burials were present. Using these techniques, numerous unmarked graves were relocated, and the tiniest bit of history recovered from under the sod.

Pyne, Lydia (Arizona State University) and Manfred Laubichler (Arizona State University)**[100] Niche Construction Theory: Archaeology & Scientific Explanation**

Niche construction theory (NCT), from evolutionary biology, emphasizes the role of organisms in shaping the environment. Recently, it has gained attention in archaeological circles, as NCT could explain novel evolutionary dynamics, from population-genetic models to cultural niche construction in human evolution. This paper discusses the explanatory force of NCT and the scales of scientific explanation possible. It assesses: 1) whether explanation in NCT rests on "plausibility" as a mechanism and evidence for NCT can be extrapolated back into the archaeological record; or 2) whether NCT is a causally-relevant mechanism in cultural and directly observable in the archaeological record.

[100] Chair [100] Co-Organizer

Quach, Tony and Hector Neff (California State University Long Beach)

[11] *Use Wear and Elemental Analysis of Lithic Microdrills from San Pedro, California*

In a 2005 paper, Evans and Donahue showed that the interaction between a lithic tool and a worked material may create distinctive elemental signatures along the surface indicative of specific types of use wear. We explore the potential of this approach in a study of lithic microdrills collected from a site in San Pedro, California. Through chemical characterization of the worked surfaces, we compared chemically similar groups against their morphological characteristics. This approach may provide a means of studying patterns of lithic tool use in addition to providing useful data concerning the provenance of materials.

Quave, Kylie (Southern Methodist University) and R. Alan Covey (Southern Methodist University)

[13] *Reconstructing Political and Economic Hierarchies in the Inka Imperial Heartland (Cusco, Peru)*

Inka territorial expansion necessitated the transformation of the region surrounding Cusco, the imperial capital. Local groups experienced varying degrees of resettlement and loss of political/economic autonomy as agropastoral economies were more directly controlled by the Inka elite and new populations were introduced. Aspects of the changes can be described using regional settlement pattern data and documentary sources, but the full understanding of Inka political economy in the imperial heartland requires problem oriented excavations at multiple sites. This paper synthesizes the archaeological and ethnohistorical evidence for the Maras plain and Xaquixaguana Valley, identifying prospective avenues for more intensive archaeological investigation.

Quesenberry, Melisa

[112] *Through the Foam of History: The Antiquity of Pulque Ritual Iconography in Central Mexico*

Pulque, the alcoholic beverage made from the maguey cactus, is known to have held ritual significance for the post-Classic peoples of Central Mexico. Rituals and deities related to pulque are found throughout Aztec iconography. Maguey iconography is also prevalent in mural and vessel paintings from Teotihuacan centuries earlier. This paper argues that this reflects early pulque-related ritual iconography. This was likely a significant aspect of Teotihuacan religion and embodied the concept of the reciprocal processes of sacrifice and fertility.

Quezada, Osiris [74] see Valentin, Norma**Quezada Ramirez, Osiris**

[251] *Sistemas constructivos en el Templo Mayor de Tenochtitlan una propuesta de investigación*

La arquitectura del Templo Mayor de Tenochtitlan desde las crónicas del siglo XVI y hasta nuestros días, ha sido motivo de innumerables trabajos en los que se describen principalmente aspectos como su forma y función. Sin embargo, la secuencia arquitectónica y técnica constructiva de este edificio han sido someramente estudiadas. Mediante el estudio de las técnicas constructivas y retomando aspectos como forma, función y significado podremos tener una visión arquitectónica y un corpus de información de este edificio más completa.

Quijada, Cesar (Centro INAH Sonora)

[185] *The Archaeology of the Teras Valley, Sonora*

In this paper I will talk about the Teras Valley, located in the lower Bavispe River in the serrana region in the northeast of Sonora. New archaeological sites have been located in this region in the last few years and their architectural elements and archaeological materials are culturally more associated with the Sonora River Culture than the Casas Grandes Culture, which is different than was expected.

Quilter, Jeffrey [232] see VanValkenburgh, Nathaniel**Quinn, Allen [93] see Pedler, David**

Quinn, Colin (University of Michigan), Elizabeth Elliott (University of Notre Dame) and Ian Kuijt (University of Notre Dame)

[281] *Life-History and Taphonomy of a House: Considering 19th century Vernacular Architecture, Co. Galway, Ireland*

Understandings of rural Irish vernacular architecture are traditionally based upon historical and folklore perspectives. Archaeological assessments of the dynamics of construction, occupational history, and use life provide insight into the life histories of residential buildings that compliment and improve upon other approaches. Drawing upon field data recorded in western Connemara, Co. Galway, Ireland as well as more traditional historical and archival methods, we demonstrate the importance of stressing the archaeological complexity and considerations of 'the living house' when addressing temporal, functional, and spatial aspects of architecture in the past.

Quinn, Colin [168] see Wolfe, BriAnne R.

Quiroz, Daniel (Universidad De Chile, Departamento de Antropología)

[57] *The use of faunal resources in the coasts of the Araucanía (Chile) during Middle Holocene*

In the last years, the faunal evidences corresponding to the middle Holocene occupations in the coasts of Araucanía, has increased considerably. In the same way, the attempts to integrate and to systematize this information have displayed equal development. We presented a perspective for the processing of these evidences, based on an ecological frame of analysis and oriented towards a first explanation of the process of peopling of the region. Moreover, the information allows to propose the existence a new "nucleus" of early hunter and gatherer marine adaptation during middle Holocene.

Rabinovich, Rivka [94] see Gaudzinski-Windheuser, Sabine

Raczek, Teresa (University of New Hampshire)

[313] *Examining Old World Lithic Assemblages with New World Approaches*

The causes of expediency and formalism in lithic technology have been studied at great length in North America with differing results. Levels of expediency and formality have been linked to levels of mobility, quantity and quality of raw material, activities, and other multiple factors. Most of these studies focus on biface technologies instead of blades, and do not take into account the availability of other tool making materials such as metal. By examining lithics in Old World contexts it is possible to take these two factors into account and to re-examine the implications of expedient or formal technologies.

Rademaker, Kurt (University of Maine), David Reid (University of Maine) and Gordon Bromley (University of Maine)

[231] *Quebrada Jaguay and the Terminal Pleistocene Coast-Highland Connection*

Non-local materials recovered from well-dated Terminal Pleistocene contexts at Quebrada Jaguay suggest early contact with interior zones. The connection between Quebrada Jaguay and the Alca obsidian source is especially remarkable as it is the only positively demonstrated, Terminal Pleistocene material link between specific coastal and highland locales in all of South America. We report on recent interdisciplinary investigations aimed at discovering the nature of this early inter-zonal contact, including geoarchaeological study of Alca obsidian deposits, paleoenvironmental research, GIS modelling and exploration of potential coast-highland forager routes, and ongoing efforts to locate contemporary, early archaeological sites in interior zones.

Rademaker, Kurt [231] see Burger, Richard L.; [231] see Reid, David A.

Radivojevic, Miljana (Department of Archaeology, Faculty of Philosophy, Serbia), Dusan Sljivar (National Museum Belgrade, Serbia), Ernst Pernicka (Institut für Ur- und Frühgeschichte und Archäologie des Mittelalters, Eberhard K) and Thilo Rehren (Institute of Archaeology, University College London, United Kingdom)

[272] *The Origins of Metallurgy in Europe- Evidence for Early Copper Smelting in Belovode, a Vinca culture site in Eastern Serbia*

In this paper emphasis is put on the technological study of copper smelting in Belovode, a Vinca culture site in Eastern Serbia. The remains of slag, malachite beads and ores associated with ancient mines in the site's vicinity, and surface finding of a copper ingot, offer insight into organization and technology of metal production at the end of 6th millennium BC; representing one of the earliest evidence for metal smelting in the Neolithic world. Lead isotope analyses relate the samples to several different ore deposits in the region, suggesting a framework for reconstructing the chaînes opératoires of early metal production.

Raff, Jennifer [223] see Kaestle, Frederika

Rafferty, Janet (Cobb Institute of Archaeology) and Paula Andras (Carnegie Museum of Natural History, Pittsburgh)

[129] *Vacant Centers and Dispersed Settlement Patterns*

Vacant centers have been recognized in various times and places. Their existence contradicts the expectation that "civilizations" are marked by public architecture at nucleated settlements. In Eastern North America, Adena and Ohio Hopewell earthwork sites have been argued to be vacant centers. Another Middle Woodland example is Ingomar Mounds in northeast Mississippi. The results of systematic shovel testing of non-mound portions of the site show low artifact density and variety. Extensive archaeological survey has found scattered small habitation sites in the vicinity, representing a dispersed sedentary settlement pattern. The circumstances under which such vacant-center patterns evolve are considered.

Rafferty, Sean (University At Albany, SUNY)

[179] *Prehistoric Intoxicants in North America*

There is ample evidence for the use of intoxicants in prehistoric North America. Best known is tobacco, but other examples exist as well. This paper summarizes the archaeological evidence for the use of intoxicants in North America. An intriguing anomaly, the absence of evidence of the use of alcohol, is also discussed.

[179] *Chair*

Rafferty, Sean [24] see Rieth, Christina B.

Raharijaona, Victor [229] see Kus, Susan M.

Rahemtulla, Farid (Univ Northern British Columbia)

[295] *Early middens as Places on the Northwest Coast*

Using various lines of evidence, this paper explores the notion that many early Holocene middens on the Pacific Northwest Coast are repeat use localities that had social and historical significance for generations of Aboriginal communities. As such middens were far more than refuse heaps; they were significant Places on the landscape that were imbued with ancestral connections and significant social meanings. This has implications for our understanding of land use, trade networks and hunter-gatherer lifeways in general during this early time period.

Railey, Jim (SWCA Environmental Consult)

[313] *Forget Flake Types: Attribute Analyses of Debitage-assemblage Variability*

Most debitage analyses employ flake "types" that assume, a priori, the "reduction stages" or specific flaking activities (percussion, bifacial thinning, etc.) that produce them. Such types are subjectively and inconsistently defined (or even undefined), and thus not suited to serious comparative analyses. Although some well-reasoned critiques of this subjective approach were published beginning over two decades ago, such critiques have fallen

largely on deaf ears. Methods based on objectively defined flake attributes offer a much more promising alternative, and are well-suited to straightforward statistical analysis. Several debitage assemblages from New Mexico are examined using an attribute-based method.

Rains, Michael (York Archaeological Trust)

[183] *Creating A Virtual Research Environment for Archaeology*

The Integrated Archaeological Database (IADB) began as an excavation recording and post-excavation analysis tool but during more than ten years of development its scope has widened to include archiving and publication. In recent years, work has focused on the development of more sophisticated interfaces and tools within the IADB to create a collaborative research environment and publication framework for all aspects of fieldwork based archaeological research. This presentation will focus on how technologies usually associated with the term Web 2.0 have enabled and to some extent driven this development.

Rakita, Gordon (University of North Florida) and John Ravesloot (William Self Associates, Inc.)

[34] *Social and Political Organization at Casas Grandes, Chihuahua, Mexico.*

We review past and current research on the nature of social and political organization at the Prehispanic site of Casas Grandes (Paquimé), Chihuahua, Mexico. In particular, we focus on the Medio period (ca. A.D. 1200-1450) emergence of this complex community. We begin by reviewing Charles DiPeso's perceptions regarding social and political organization at Casas Grandes. We also discuss how his interpretation of the site influenced ensuing work. Subsequently, we evaluate more recent evidence for social and political organization at the site gleaned from architecture, craft production, animal husbandry, human burials, trade goods, and ritual spaces and artifacts.

Ramirez, Omar [122] see Schlenker, Amy E.

Ramírez Luna, Ángel [185] see Punzo, Jose L.

Ramos, Jorge

[233] *Teotihuacan Traditions at Copan, Honduras*

A reassessment of Teotihuacan cultural elements at Copan throughout its Classic dynastic history supports a Maya-Teotihuacan dual identity among Copan's elites. Temple 16, a Late Classic building in the city's Acropolis, was created to reaffirm the Highland Mexican cultural roots brought to Copan several hundred years earlier by its first Maya king, K'inich Yax K'uk' Mo'. Decorated with hybrid imagery, the temple represents a unique picture of this dual identity, and demonstrates that while the golden age of Teotihuacan had passed, its memory could still be called upon to legitimize the rulership of Mesoamerican kings.

Ramsay, Jennifer (Simon Fraser University)

[315] *Seeds of Change: Can Botanical Remains Elucidate Settlement Type in the Ancient Near East?*

When trying to establish settlement types and patterns for ancient sites in the Near East, botanical remains may be able to offer some assistance as they can provide concrete evidence for not only the economic system that was in practice but also the type of environment that would have been present in a region in the past. After examining the archaeobotanical material from several sites in Israel and Jordan it is possible to determine to what extent botanical remains can be helpful in the reconstruction of settlement type and how these sites would have functioned in the larger agrarian economy.

Ramsey, Joshua

[317] *Plant Resource Distribution In the Northern Sinagua Territory: Integrating Paleoenvironmental Data and Abiotic Parameters*

This research investigates plant resource distribution in areas occupied by Northern Sinagua communities of north-central Arizona during the Elden Phase (A.D. 1150 – 1250). The location of non-domesticated plant resources during the Elden Phase will be the

subject of this research. I address research questions concerning the geographical extent of plant resource exploitation by four contemporaneous communities during the Elden Phase – Elden Pueblo, Lizard Man Village, Bench Pueblo, and New Caves. Paleoethnobotanical data from the Elden Phase sites are employed as a basis for evaluating the sustainability of environments in the study region.

Randall, Asa (University of Florida)**[19] Remapping Archaic Social Histories along the St. Johns River, Florida**

Among present-day hunter-gatherers, traditions of settlement structure and location provide frames of reference for negotiating local and regional social relationships through mundane and ritual practice. This paper examines how such traditions emerged as an ongoing historical process during the Archaic period (6200-3500 BP) along Florida's St. Johns River. A consideration of depositional histories of monumental shell mounds reveals that inhabitants variously reproduced, transformed, and extended domestic places and practices as formalized commemorative events. At larger scales, these transformations register the social reconfiguration and remapping of the St. Johns as new ecologies and identities were locally incorporated and differentiated.

Randklev, Charles, James Kennedy (Department of Biological Sciences, University of North Texas) and Steve Wolverton (Department of Geography, University of North Texas)**[91] A Morphometric Technique for Assessing Prehistoric Freshwater Mussel Population Dynamics (Family Unionidae) in North Texas**

Measured shell length taken from extant freshwater mussel populations is often used to determine ontogenetic-age structures. Unlike contemporary specimens, paleozoological mussels are often fragmented and are rarely preserved well enough to measure shell length. Pallial line to lateral tooth length (PL-L) has been suggested as an accurate proxy for shell length, and is tested for validity using seven freshwater mussel species found in North Texas. PL-L measurements prove to be an accurate proxy for shell length and are applied to two mussel species from three archaeological sites in North Texas, to determine recruitment for prehistoric mussel communities.

Ranere, Anthony (Temple University) [236] Discussant**Rankin, Adrienne [12] see Doyel, David E.****Rankin, Lisa (Memorial U of Newfoundland)****[72] Landscape as Domestic Space Among Mobile Hunter-Gatherers**

Among the pre-contact hunter-gatherers of Newfoundland and Labrador the domestic realm was neither constrained by the built environment, nor segregated from the ritual and spiritual world. Instead the markers of highly mobile domestic space occurred across a vast physical and sacred landscape. This paper will examine a series of lithic caches recovered from archaeological contexts to demonstrate how small depositions of artifacts created, validated and signaled a sense of domestic space by locating it in memory, task, ritual and social relations.

Rapson, David J. [184] see Hill, Matthew G.**Basic, Jeff [275] see Reuther, Joshua D.****Basic, Jeffrey (National Park Service)****[245] A Model of Late Pleistocene Land Use and Technology from Northwest Alaska**

A model is offered to describe the technological and land use strategies used by the late Pleistocene inhabitants of interior northwest Alaska based on an analysis of 27 lithic assemblages and their distribution relative to major ecological zones. Lithic raw material conservation is discounted as an important constraint on technology given the region's exceptionally rich and widespread lithic raw material resources. Substantial inter-assemblage variation among the study assemblages is proposed to result primarily from seasonal variation in the availability of subsistence resources, heavy reliance on

specialized task groups, and great concern for efficient time-budgeting.

Rasmussen, Marianne (Historical Archaeological experimental centre)

[24] "First, you have to build your own barrow...." Experiments initiate new theories on the technology of monument building

Most experiments deal with the production or function of prehistoric tools. However, also other aspects of prehistoric technology are the subject of experiments that may identify sequences of events and thus lead to theories on human strategies. This paper takes its point of departure in an interdisciplinary research-project that investigates the construction of the South Scandinavian sod built barrows from the Bronze Age. Some of these barrows contained graves with content of bodies and organic material preserved by a unique interior anaerobic environment. A series of experiments explored whether this was due to natural causes or human construction strategies.

Rassmann, Philipp (University of Washington)

[168] *The Grinding Edge of Ground Stone: An Anatolian Case Study*

Most Near Eastern pottery Neolithic site reports present only a rudimentary description of the ground stone with little, if any, examination of an assemblage's overall character. This presentation introduces a case study that uses new data collection standards to evaluate Near Eastern ground stone. The ground stone in this investigation originates from Domuztepe, a Halaf site in southeastern Turkey. Using techniques common to lithics research, the new data and resulting analysis present a window into Anatolian ground stone technology and craft production.

Rautman, Alison (Michigan State University) and Matthew Chamberlin (James Madison University)

[46] *When is a Defensive Site? Coping with Conflict in Central New Mexico*

Population aggregation during the 12th century in the Salinas area of New Mexico involved construction of plaza-oriented pueblos and a shift in settlement to upland locations—strategies commonly attributed to vague and generalized “defensive needs.” Excavation at an early pueblo provides evidence of continuing architectural renovation, apparently for defense; pueblo-wide burning of intact roof assemblages attests to the reality of conflict. These data allow us to move beyond generalizations into specific evidence of the conduct of warfare, selection of tactics for defense, and the effects of actual and potential conflict on small-scale communities.

[38] *Discussant*

Ravesloot, John [34] see Rakita, Gordon F.M.

Ravesloot, John C. [89] see Rawson, Paul M

Raviele, Maria (Michigan State University)

[117] *Exploring Quantification of Maize Phytolith Densities Through Experimental Residue Analysis*

Phytolith studies of ceramic residues demonstrate the feasibility of identifying those plants present at the time of residue creation. Phytolith studies are unable to determine, however, the percentage of each plant utilized in the cooking process. Developing the ability to do so could potentially contribute to an understanding of the importance of that food resource in a prehistoric diet. This paper discusses preliminary results obtained in attempting to quantify maize phytolith densities through analysis of experimental residue samples based on the percentage of maize used to create the residue.

Rawson, Paul (William Self Associates, Inc.), John C. Ravesloot (William Self Associates, Inc.) and Michael J. Boley (William Self Associates, Inc.)

[89] *2500 Years in the Marsh: The Transition from Foraging to Farming in Southern Arizona*

Recent investigations at the Marsh Station Road site (AZ EE:2:44 [ASM]) document a persistent prehistoric presence at the confluence of Mescal Wash and Cienega Creek, east of Tucson. A large assemblage of Late Archaic/Early Agricultural points, combined with coeval architecture, storage, and processing features, indicates a "semi-sedentary" use of

the area during the Early Agricultural period. Results from this component stand to contribute new insights on the transition from foraging to agriculture, complementing other recent work in the Tucson Basin. The diversity of the later prehistoric artifact assemblage suggests the site was situated in a culturally dynamic frontier.

Raymond, J. (University of Calgary)

[200] *From Archaic to Formative in Western Ecuador: Transformations in Household and Community Organization*

The many centuries between 8,000 to 4,000 BP witnessed tremendous changes in economic and social organization in western Ecuador. Mobile forager / horticultural societies were transformed into or replaced by more sedentary, village based, agricultural societies. This paper will explore the changes in household and community organization associated with this transformation.

Read, Dwight (University of California)

[137] *Confirmation of Predictions from an Agent Based Model of Interbirth Spacing*

The implications of an agent-based model (ABM) for birth spacing decisions by hunter-gatherer women is extrapolated to more complex societies. The ABM implies that reaching population equilibrium depends on the degree to which growth translates into increased cost for obtaining food resources by women. Two patterns are predicted for lineage forms of social organization depending on: (1) a lineage absorbs the consequences of a positive growth rate growth or (2) a lineage splits into sublineages. Data on paramount states show remarkably close agreement with the prediction of two distinct patterns for population size compared with number of basic social units.

Read, Kay (DePaul University)

[134] *Destructive Habits: Children, Blood, Bones and Questions of Nahua Ritual Violence*

Many see most Nahua child sacrifices as involving rain gods. However, while some have plumbed the deep cosmological attitudes potentially shaping these rituals, fewer have explored the formative role of Nahua cultural views on childhood itself. Nahua views of childhood were commensurate with a worldview centering on complex notions of a sometimes violently transformative materiality. Unlike western ideas of childish spiritual innocence, children were both responsive and responsible players in a world in which death was a necessary actor. Habits of destruction helped ingrain this reality as children themselves were often lovingly led into full social.

Reddy, Seetha

[114] *Native Economies at Spanish Contact in coastal Southern California: Food Producers or Collectors?*

Protohistoric subsistence studies in coastal southern California have been held captive to the region's rich ethnohistoric record. Scholars have generally relied upon ethnohistoric accounts of plant gathering strategies and food preparation methods to characterize Native American groups at Spanish contact as incipient food producers. As a result, analysis of data from coastal southern California sites has lagged behind the pace of similar research in other regions of North America. Drawing on recent theoretical discussions of low-level food producers and the adoption of non-indigenous cultivars, this talk lays a framework for exploring changes in Protohistoric economies in coastal southern California.

Reddy, Seetha [114] see Douglass, John G.

Reed, Lori (Animas Ceramic Consulting Inc)

[266] *Time, Technology, and Trends: Middle San Juan Ceramics and the Influence of Chacoan Potters*

Analysis of ceramic assemblages from over 100 Pueblo II-III sites in the Middle San Juan region has aided in recognition of variable cultural influences on different aspects of ceramic technology and design styles. In this paper, I examine ceramic data from these assemblages in relation to technological style, design style, and cultural influence. My goal is to determine the extent to which ceramic technology and style came to the region via Chacoan migrants in contrast to evidence of emulation by local potters.

Reed, Paul

[266] *Searching for Chacoan Migrants on the Landscape: Excavation and Settlement Data from the Middle San Juan Region*

Recent excavations and compilation of settlement data from late Puebloan sites in the Middle San Juan region provide a wealth of information to address a decades-old question: did residents of Chaco Canyon migrate to the north in the late AD 1000s to found great houses such as Aztec and Salmon, or are the Chacoan traits seen in architecture, ceramics, and other craft industries the result of local populations emulating Chacoan patterns? In this paper, I assess architectural and artifactual data from several great houses and small pueblos in the region to explore the processes of migration and emulation.

[266] see Clark, Jeffery J.

Reeder, Leslie (Southern Methodist University) and Torben Rick (Southern Methodist University)

[152] *Forty Years Later: What have we learned about the Earliest Human Occupations of Santa Rosa Island?*

Santa Rosa Island, the second largest of California's Channel Islands, contains one of the longest records of human occupation on the west coast of North America. The island's climate and geology make it promising for enhancing our understanding of the initial colonization of the Pacific Coast. Phil Orr's (1968) *Prehistory of Santa Rosa Island* was the first synthetic publication focused on the island's archaeology. Orr postulated that mammoth hunters occupied Santa Rosa some 40,000 years ago. Here we focus on progress made since Orr's landmark study forty years ago, and discuss future research directions on Santa Rosa Island.

Reeder, Trent [222] see Yoder, Tom D.

Reents-Budet, Dorie

[136] *Bringing the Underworld to Light: Andrea Stone and Maya Cave Exploration*

This paper details Andrea Stone's contributions to Maya cave archaeology. Andrea's research and publications transformed the field of underground exploration in the Maya lowlands into a panoptic interweaving of artifactual evidence, spatial analysis, epigraphy, symbology and psychological imagery and human brain chemistry. Trained as an art historian, Andrea brought to Maya studies a new conceptualization that augmented scientific inquiry beyond testing of models of social theory to humanistic exploration of ritual practices as reflections of the underlying cultural ideologies that caused caves to be crucial locales in the Maya physical and psychological landscape.

Reese-Taylor, Kathryn (University of Calgary) and David Freidel (Southern Methodist University)

[136] *Goddesses, Grandmothers, Queens, and Consorts: Matrilineal Descent in Classic Maya Society*

In this paper we use Stone's early work regarding women's roles in Maya myth and society as groundwork for our study of matrilineal descent in royal descent. Using recent data from archeology, epigraphy, and iconography, we re-examine the concept of ambilineal descent and the offices of women in the Maya court. We conclude that the official functions of women were vital to the success of each Maya state and that, during the Late Classic matrilineal, were as important as patrilineal in succession.

Reese-Taylor, Kathryn [97] see Walker, Debra S.

Regan, Roderick [276] see Farid, Shahina

Regis, Robert [30] see Anderton, John B.

Regnier, Amanda (Oklahoma Archeological Survey)

[21] *Late Mississippian Coalescence in the Alabama River Valley*

In the southeastern United States, historic Native American groups encountered by European colonists have been interpreted as coalescent societies. These new social groups emerged during the sixteenth through eighteenth centuries in the wake of ongoing population depletion. Archaeological evidence from pre-contact Late Mississippian sites in the Alabama River Valley indicates that a coalescent society existed in this region prior to European contact. The nature of pre-contact coalescent chiefdoms in this region will be discussed in light of the archaeological evidence and the accounts of early Spanish explorers in the region.

Rehren, Thilo (Institute of Archaeology) [272] Chair

Rehren, Thilo [272] see Radivojevic, Miljana; **[248]** see Cohen, Claire R.

Reid, David, Bernardino Ojeda (Universidad Nacional Agraria La Molina), Dan Sandweiss (University of Maine) and Kurt Rademaker (University of Maine)

[231] *Settlement Patterns of the Quebrada Jaguay Region*

Archaeological survey identified ~75 archaeological sites in coastal and lomas zones around Quebrada Jaguay in southern Peru, dating to three Preceramic phases: Terminal Pleistocene Jaguay Phase (~13,000-11,400 cal BP), Early to Mid-Holocene Machas Phase (~10,400-7750 cal BP), and Late Holocene Manos Phase (~3600 cal BP). All sites relied on marine resources; the Jaguay site has the clearest evidence of contact with highlands; Machas sites show regional "settling in"; and Manos sites have more diversified subsistence but least evidence of interzonal contact. These shifts in long-distance interaction and settlement patterns suggest environmental and social change since the Terminal Pleistocene.

Reid, David [231] see Rademaker, Kurt**Reid, Kenneth (State Hist Pres Office) and Kenneth Kvamme (University of Arkansas)**

[239] "We amused ourselves shewing them the power of magnetism": *Geophysics and the Search for Sergeant Ordway in Hells Canyon, Idaho*

Each of the ten streams that enter the Snake River from the east between the Salmon and Grande Ronde has been identified at one time or another as the place where Sergeant Ordway and two companions bartered for salmon to provision the Lewis and Clark party camped at Kamiah in the spring of 1806. Two seasons of Bicentennial survey, mapping, remote sensing, and testing have narrowed the location to Cougar Bar. Here geophysics (magnetometry, resistivity, conductivity, radar) anticipated, and testing confirmed, the dimensions, floor plan, hearth alignment, and historic metal artifacts of an early 19th century Nez Perce fishing lodge.

Reid, Kenneth C. [278] see Vrem, Darin W**Reilly, Frank (Texas State University)**

[136] *The Cave and the Beneath-World Spirit: Mythic "Dragons" From The North American Past*

Andrea Stone has demonstrated that Mesoamerican caves, with their accompanying imagery, are a fruitful area of academic research. Prominent among the corpus of early Mississippian Period painted images from Picture Cave, Missouri, is the "Beneath-World Spirit." Investigations of the Beneath-World Spirit reveal it to be a visual metaphor for otherworld power. The difference in these Beneath-World Spirit depictions strongly suggest that this theme is linked to specific regions of the Beneath-World as well as to those dance and medicine societies whose rituals focused on those cosmological portals that are an inherent attribute of the dark world of the cave.

[136] Co-Organizer

Reimer, Rudy [18] Chair [18] Co-Organizer

Reimer, Rudy [18] see *Budhwa, Rick*

Reindel, Markus (German Archaeological Institute Bonn, Germany)

[98] *The "Initial Nasca" period in Palpa, Peru – prelude to major sociopolitical transformations*

Like in other investigation on the south coast of Peru we considered the Ocujaje 10 and Nasca 1 phases as transitional between the Paracas and Nasca culture, based on technological criteria. But this "Initial Nasca" period, which is represented in our records with the largest number of sites, turned out to be most important for our understanding of the following developments of the Nasca culture. We present new data from our surveys of more than 200 settlements, typical geoglyphs, excavations in settlements, ceramic analysis, radiocarbon datings and results of geoarchaeological investigations in order to better understand this largely neglected period.

Reinhard, Karl [139] see *Boyardjian, Celia*

Reiser, Marcy (Colorado State University)

[221] *Branching into the Unknown: How Tree-rings, Fire and Historical Documents Uncover the Past*

Beetle-ravaged trees and fire are a lethal combination, but this deadly mixture can also lead to a fertile reinterpretation of the past. In the summer of 2006, students from Colorado State University collected tree-ring samples in Northwestern Wyoming. Shortly thereafter, the study area along with much of its timber was destroyed in the Little Venus Creek fire. Rather than a setback, however, the collected tree-ring samples, along with the archaeology exposed post-fire and historical documents offer a unique set of data and circumstances for reconstructing the past.

Reitz, Elizabeth (University of Georgia) and Heather McInnis (DePaul University)

[231] *Fishing in Southern Peru in the Terminal Pleistocene/Early Holocene*

Differences in vertebrate classes and fish families emphasized, marine water conditions, mean marine trophic level exploited, targeted trophic levels, and diversity in the vertebrate data from four Terminal Pleistocene/Early Holocene sites from southern coastal Peru indicate that several strategies were deployed, though the focus in protein acquisition was always the sea. This suggests that local conditions, as well as cycles of warmer and cooler waters, were factors in the strategies practiced at each site. The sites reviewed encompass 160 km of coastline and were occupied between 13,050 and 7195 14C B.P., placing Quebrada Jaguay in a regional context.

Reitze, Nicholas Laluk [10] see *Murray, John R.*

Reitze, William (University of Arizona), Jesse Ballenger (University of Arizona), John Murry (Blackfeet Tribe), Nicholas Laluk (University of Arizona) and Nieves Zedeno (University of Arizona)

[10] *Bone Bed Geoarchaeology: The Kutoyis Site, MT*

Initial geoarchaeological work was conducted as part of a collaborative research project on the Two Medicine River, Blackfeet Indian Reservation, MT, to address questions of taphonomy and site formation history. Stratigraphic testing and radiocarbon dates have shown multiple layers of bone deposition and evidence for the burning of bone within the site. Stratigraphic information will be coupled with lithological assessment and soil properties to determine the spatial extent and depositional history of the bone bed. In addition, phosphorus samples collected on and off site will be used to examine the hypothesis that phosphorus concentrations correlate with bonebed/processing areas.

[10] *Co-Organizer*

Reitze, William [10] see *Zedeno, Maria N.; [10] see Murray, John R.; [10] see Jones, Robert M.*

Ren, Xinyu (Department of Anthropology, University of Georgia), Bingbai Chen (Wuhan University, China) and Xiyun Yu (Wuhan University, China)

[106] *Huangtucheng Regional Archaeological Survey*

The Huangtucheng regional archaeological survey is the first full-coverage survey in the understudied Huai River region in China. Centering on the large, previously known site of Huangtucheng, the survey covered 209 km², identified 446 temporal components, made 1102 collection units, and collected over 10,000 artifacts in 76 sites of this area. Our mapping and coring of the Huangtucheng site suggest it may have been a walled town. Survey results have showed long continuity of settlements from 5000 B.C. to the modern times, but with peaks in the Late Neolithic times and relatively slow growth in the Early Bronze Age.

Rendu, William [91] see Niven, Laura

Renne, Paul [32] see Waters, Michael R.

Renouf, M.A.P [235] see Westley, Kieran

Renouf, Miriam (Memorial Univ of Newfoundland)

[235] *Collective Hunting and Processing at Phillip's Garden, a Dorset Palaeoeskimo site in Northwestern Newfoundland*

One of the largest and most intensively occupied Dorset Palaeoeskimo sites in the Canadian Arctic is Phillip's Garden, Port au Choix, northwest Newfoundland. The site is extraordinary in its size (2 hectares), longevity (over 700 years) and well-preserved dwelling architecture, consisting of over 75 structures, many of which are around 100m². Faunal and artefactual data suggest an economic specialization on late winter harp seal hunting and the subsequent processing of sealskins. Recent palynological work has shown that site activities were sufficiently intensive to affect the limnology of a nearby pond. This paper argues that, like the rich salmon runs of coastal Alaska and British Columbia, the predictable harp seal concentrations off Phillip's Garden presented opportunities for optimization of yield through coordinated and concentrated efforts of hunters and processors.

Renouf, Priscilla [250] see Bambrick, Jillian M.

Reseburg, Nicholas (University of Redlands) and Wes Bernardini (University of Redlands)

[50] *GIS Network Analysis of Hopewell Geometric Earthwork Connectivity*

The contrast between the immense scale of Hopewell geometric earthworks and the ephemeral nature of Hopewell residential sites has long puzzled archaeologists.

Traditionally, the contrast has been reconciled by interpreting each earthwork as a "village surrogate" for the surrounding, local population. This study employs a GIS travel network of the Ohio river system to estimate canoe travel-time between earthworks and model interaction among seemingly distant actors. The results reveal that most residents of southern Ohio in the Hopewell period had easy access to multiple earthworks, challenging the "village surrogate" model.

Retamal, Rodrigo (Universidad de Chile), Josefina González and Mauricio Uribe

[157] *Intervenciones en el Cementerio Huarasiña (Quebrada de Tarapacá, I Región)*

Se describen las intervenciones efectuadas en el cementerio Huarasiña (Quebrada de Tarapacá, I Región), en el marco de objetivos del proyecto FONDECYT 1030923. Este sitio, expuesto a raíz del terremoto ocurrido en junio de 2005, expuso 33 cuerpos y otros rasgos descritos a continuación. En este paper se describen las características de este sitio, así como la metodología de excavación y registro realizados durante el mes de mayo de 2006. También se describen sucintamente cada uno de los rasgos funerarios registrados y levantados, así como se evalúan sus consecuencias para la prehistoria regional de Tarapacá.

Reuther, Joshua, Jeff Rasic (Archaeologist & Collections Manager, Gates of the Arctic National Park, National), Natasha Slobodina (Department of Anthropology, University of Alaska) and Robert Speakman (Head of Technical Studies, Smithsonian Museum Conservation Institute, Smithsonian)

[275] *Gaining Momentum-The Status of Obsidian Source Studies in Alaska and Their Importance for Developing a Better Understanding of the Regional Prehistory*

Chemical sourcing of obsidian artifacts serves an important role in establishing prehistoric patterns of trade, exchange, resource exploitation, and cultural interaction. In Alaska and adjacent areas of Canada, more than 1200 obsidian artifacts and geologic source samples have been analyzed by various techniques resulting in the identification of over 30 chemically discrete obsidian "sources" throughout this vast region. We provide a synopsis on the Alaskan Obsidian Database project, summarize previous research on obsidian sourcing in the region, and highlight case studies from recent research to emphasize the importance of provenance studies to the understanding of the prehistory of this region.

Reuther, Joshua D. [220] see Bowers, Peter

Rexroth, Allison (University of Denver)

[308] *Sandals of the Southern High Plains*

Perishable artifacts, such as basketry, cordage, and sandals are rare cultural materials due to the environments in which they are preserved and their inherent non-durability. Where recovered, researchers have used them to study cultural identity and trace population movements over time and space. On this premise, previously un-described sandal assemblages from Trinchera Cave (CO), and Kenton Caves (OK) were age dated, analyzed, and compared to other known sandal collections throughout North America, including Franktown Cave (CO). The appearance of similar sandal styles at these sites in the Archaic through Late Prehistoric suggests several population movements on the Southern High Plains.

Reyes Valdez, Antonio [185] see Zavala, Bridget M

Reyna, Rosa (Instituto Nacional De Antropología E Historia)

[150] *Postulados Artísticos Y Realidades Arqueológicas: La Desmitificación Del Estilo Mezcalá*

Las numerosas piezas de piedra que afloraron en el ahora estado de Guerrero, esculpidas en forma abstracta y vigorosa, llevaron a su estudio inicial desde la estética, destacando sus características formales, pero también a postular interpretaciones sobre su uso, significado y antigüedad, interpretaciones que prevalecieron hasta hace menos de dos décadas, mismo periodo en que las investigaciones arqueológicas han logrado establecer su presencia en contextos culturales más amplios y ubicarlas en tiempo y espacio. En esta ponencia se analizarán los pormenores de estas dos perspectivas de estudio.

Reynolds, Amanda [46] see Grimstead, Deanna N.

Reynolds, Cerisa

[307] *Searching for Skill Identifiers through Experimental Flintknapping and a North American Archaeological Assemblage.*

Experimental and ethnoarchaeological work has shown that there are visible differences between the lithic materials produced by novice and skilled flintknappers. This possibility has great importance within archaeological research but is not always easily applied to the archaeological record. This paper will discuss a recent project wherein investigators could not find significant differences between a lithic collection created by neophyte knappers and a North American archaeological assemblage. The author will relate these results to literature regarding skill and learning, will discuss the implications of these results, and will also explore the biases inherent within such comparisons.

Reynolds, Linda (USDA Inyo National Forest)

[7] *The Prehistoric Archaeological Record of the Alpine and Sub-Alpine Zones of the Eastern High Sierra Nevada*

Recent archaeological inventories in the Ansel Adams and John Muir Wildernesses of the Inyo National Forest have recorded prehistoric sites in the alpine and sub-alpine zones of the east side of the High Sierra Nevada Mountains thus filling in the archaeological record from Tioga Pass on the north to Mt. Whitney on the south. Site types range from so-called sparse lithic scatters to seasonal occupation sites to extensive obsidian workshops spanning approximately the past 7,500 years. This poster will provide a visual overview of the area under discussion, the site locations, and pertinent information.

Reynoso Ramos, Citlalli (Benemerita Universidad Autonoma de Puebla)

[138] *Table of Wheat, Table of Corn: Consumer Choice Foodways and Social Prestige in Early Colonial Puebla*

This paper demonstrates that the process of food selection and material consumption in Spanish and Indian households involves different elements related not only to income and social status as stated by the consumer choice paradigm, but also food preference, flavor, function, and social prestige. Based on historical documents, social prestige between Early Colonial Cholula and Puebla seems to be an important element of ethnic distinction. Therefore, this paper argues that consumer choice should be influenced by the concept of social prestige and foodways more than income and market price.

[138] Co-Organizer [138] Chair

Rhode, David (Desert Research Institute)

[57] *Dietary Plant Use by Middle Holocene Foragers in the Bonneville Basin, Western North America*

During the Middle Holocene, foraging societies in the Bonneville Basin significantly altered their subsistence strategies by expanding and intensifying their utilization of relatively low-ranked dietary plant resources and increasing their range of utilized habitats. These shifts in human behavioral strategies occurred during a period of complex environmental changes in the region. This paper explores trends and transitions in plant resource use in the Bonneville Basin in the context of regional environmental variation through the Middle Holocene.

Rhode, David [249] see Louderback, Lisbeth

Rice, Prudence (Southern Illinois University)

[257] *Time, Power, and the Production of Identities*

I am interested in the role of time in Maya economies of power, particularly as time provides a basis for articulating elite power and identities. Time is a social construct, investigable through its representations, such as images and metaphors. These reveal that Maya concepts of time were not only cyclical but animate and apotheosized. Such conceptualizations provide the temporal contexts for analyzing and interpreting economic activities, including the creation, exchange, and consumption of material objects that underwrite elite identities and cosmp-political power. Elite participation in these processes is a critical component of longer-term cycles of social reproduction and regeneration.

[56] Discussant; [43] see Cecil, Leslie G.

Rice, Sally (Department of Linguistics)

[260] *Received and not-so-received wisdom about Athapaskan linguistics for archaeologists*

Use of linguistic evidence to complement the archaeological record of Athapaskan migration is complicated by an equally fragmentary linguistic record. In contrast to Amerindian, Athapaskan languages enjoy some unusual characteristics (e.g. large phonological inventories, general resistance to borrowing). These factors should help in dating the timing of differentiation among the daughter languages. However, other factors (like spontaneous lexical innovation) complicate linguists' efforts to establish cognate terms for comparative purposes. This paper reviews some special features of Athapaskan languages including their lexicalization patterns, indicating where and how we might look

for comparative temporal evidence among speakers of these highly endangered languages.

Rich, Kelley (University of Alabama Department of Geological Sciences) and C. Fred T. Andrus (University of Alabama)

[243] *Using Archaeological Shell Middens in Climate Reconstruction: An Investigation of Gulf of Mexico Donax variabilis as a Potential Climate Proxy*

Isotopic analysis of archaeological midden shells to examine paleoclimatic variations has been conducted in both archaeological and geological investigations. However, it is important to understand the relationship between the biology of any particular species and the environment in which it lives prior to applying archaeological shells as a proxy for reconstructing past climate. This paper reports the utility of the mollusc *Donax variabilis* as a proxy in sea surface temperature reconstruction along the northern coast of the Gulf of Mexico. Evidence from both modern and archaeological specimens will be discussed, as well as recommendations for building paleoclimate reconstructions.

[243] *Co-Organizer*

Richard, Francois (University of Chicago)

[201] *'The incertitude of customs...': Colonial subjectivities, material experiences, and ambiguous power in the Siin (Senegal), 1850s-1930s*

Historical anthropology has transformed our understanding of colonialisms, by portraying a complex archipelago of social worlds rife with ambiguities, cultural intertwinings, and unstable power fields. While these 'tensions of empire' were often played out on material terrains, one may wonder the extent to which they are manifested in archaeological situations. Using textual and material archives, this paper examines the intersection of colonial policy and local practice in Siin (Senegal) during the colonial period. These encounters produced complex materialities and social strategies that offer glimpses into the subjectivities, plural experiences, possibilities, and contradictions fashioned in the region under French colonial rule.

Richards, John (University of Wisconsin - Milwaukee) and Seth A. Schneider (University of Wisconsin-Milwaukee)

[26] *Comparative Compositional Analysis of Woodland and Mississippian Shards From the Aztalan Site*

Comparative compositional analysis utilizing a NITON handheld x-ray fluorescence analyzer, ceramic petrography, and inert neutron activation analysis was conducted on selected ceramic sherds from the Aztalan site in southeast Wisconsin. Sherds sampled include Middle Woodland, Late Woodland, and Mississippian varieties. The analysis was designed to help identify paste variation relating to differences in clay sources or changes in raw material preferences through time, and to aid in reevaluation of the relationships between the various ceramic producing cultures at the site.

Richards, Julian (University of York Archaeology Data Service), Fabio Ciravegna (Dept of Computer Science, University of Sheffield), Sam Chapman (Dept of Computer Science, University of Sheffield), Stewart Waller (Archaeology Data Service, University of York) and Stuart Jeffrey (Archaeology Data Service, University of York)

[183] *Web 2.0, Archaeotools and the Archaeology Data Service*

The ADS has been preserving and disseminating digital research data in the UK for ten years. This presentation will outline how we are embracing technologies broadly termed Web 2.0. It will discuss Archaeotools, a two-year project funded by AHRC-EPSRC-JISC under their eScience programme. This is a collaborative project with the Natural Language Processing Group at the University of Sheffield UK in which we are conducting data mining and content tagging of archaeological grey literature and journal literature, and permitting user searching via a faceted classification interface, allowing users to 'click and browse' rather than 'type and hope'.

[247] *Discussant* [78] *Discussant*

Richards, Michael (Max Planck Institute for Evolutionary Anthropology)

[116] *Stable isotope evidence for the Holocene use of marine resources in coastal British Columbia*

The Northwest coast of North America (i.e. coastal British Columbia) was one of the first regions where the stable isotope method for reconstructing past human diets was applied (Chisholm et al. 1982, Schoeninger et al. 1983). These early studies, based largely on later Holocene material, indicated that coastal humans in this area often had very high amounts of marine foods in their diets. In this paper I will review the isotopic evidence, including new unpublished data, to show that coastal indigenous people throughout this region consumed significant amounts of marine resources throughout the Holocene.

[116] *Co-Organizer*

Richards, Michael [35] see *Grimes, Vaughan H.*; [286] see *Fuller, Benjamin T.*; [309] see *Smith, Colin I.*; [117] see *Britton, Kate H.*; [116] see *Choy, Kyungcheol*

Richards, Michael P. [116] see *Mannino, Marcello A.*

Richards, Mike [218] see *Copeland, Sandi R.*; [116] see *Schulting, Rick J.*

Richardson, Laura [121] *Discussant*

Richey, Charles [308] see *Hauser, Neil*

Richman, Rebecca (University of California), Phillip L. Walker (University of California, Santa Barbara) and Sabrina B. Sholts (University of California, Santa Barbara)

[28] *Analysis of Skeletal Remains from a Viking-Age Icelandic Churchyard using Three Dimensional Models*

High-resolution 3D modeling has the potential to become a revolutionary tool in the documentation and analysis of skeletal collections. 3D models of skeletal remains allow morphological differences to be quantified in new ways with unprecedented precision. They greatly facilitate the reconstruction of fragile, fragmentary skeletons. These methods were used to study a settlement period skeletal collection from Mosfellsdalur, Iceland. Analysis of cranial variation and bilateral asymmetry of the skull and long bones reveals considerable morphological homogeneity and significant amounts of asymmetry, providing evidence of the genetic relationships of the people buried in the cemetery as well as indicators of activity.

Richter, Alan

[4] *Anasazi Cannibalism in the American Southwest: A Site-by-Site and Taphonomic Approach*

Based on taphonomic analysis of skeletal remains from the site of Polacca Wash, Christy G. Turner II and Nancy T. Morris (1970) established a minimal set of criteria to study probable cannibalism. To further test their minimal set of criteria, seven published reports were selected for review of four of their six criteria. The goal of review was to evaluate if the seven site reports acknowledged and utilized those four criteria suggested by Turner and Morris. Results varied due to researcher methodology, amount of available human skeletal evidence analyzed, and reliability of the four criteria selected as indicators of cannibalism.

Richter, Kim (Department of Art History At UCLA)

[150] *The Huastec Sculptural Aesthetic: Defining Styles at Castillo de Teayo*

Stylistic distinctions are indispensable when dealing with ancient artworks. Yet, a number of potential pitfalls obfuscate the reliability of stylistic analysis, such as hybridization, archaism, and ethnic attributions. In the Huasteca, a fruitful case study is the sculpture at Castillo de Teayo. Emily Umberger rightly attributes some sculptures to the provincial Aztec style. Nonetheless, one must also take into account the preexisting Huastec sculptural tradition to make sense of Castillo de Teayo's stylistic particularities. I will parse out the Huastec from the provincial Aztec style and argue that the latter is not imposed, but rather converges with the former.

Rick, John (Stanford University)

[73] *Andean Formative Interaction as Seen From Chavín de Huantar, Peru*

The site of Chavín de Huantar has been proposed as a center for interaction during the Andean Formative Period. Although studies of traded materials have verified this status, the nature of Chavín's interaction with contemporary Formative centers remains unclear. Using a broad range of material and stylistic evidence, this presentation will propose the basic structure of the Formative interaction sphere that maintained an important degree of similarity of symbol systems at this time.

Rick, Torben (Southern Methodist University) and Todd J. Braje (University of Oregon)

[36] *People, Pinnipeds, and Sea Otters of the North Pacific*

Seals, sea lions, and sea otters are a fundamental component of marine ecosystems around the world. Spending time in the ocean and on land, they are large and nutritious resources that are highly vulnerable to human predation. Archaeological research demonstrates that Pacific Coast peoples hunted and scavenged marine mammals for millennia and greatly influenced their abundance, behavior, and distribution. Pinnipeds and sea otters were also decimated historically during the fur trade, with many species increasing under recent protection and conservation policies. In this paper, we synthesize the modern and historical ecology of North Pacific pinnipeds and sea otters.

[36] *Co-Organizer*

Rick, Torben [152] see *Willis, Lauren M.*; [152] see *Reeder, Leslie A.*

Rick, Torben C. [36] see *Braje, Todd J.*

Riede, Felix (AHRC Centre for the Evolution of Cultural Diversity)

[100] *Prospects and Challenges in the Detection of Hunter-Gatherer Niche Construction in Prehistory. A Case Study from the Southern Scandinavian Late Glacial*

Drawing on genetic, ecological/economic and material culture data from the Scandinavian Late Palaeolithic, this paper aims to show how niche construction theory can profitably be linked to the archaeological record. It argues that, importantly, large amounts of archaeological information that are hitherto only incompletely incorporated into an evolutionary approach to the human past, can be conceptualised as part of the human ecological inheritance. In addition, archaeologists have already developed a battery of techniques that enable an assessment of this information from a niche constructivist perspective. A number of prospects and challenges for the future of niche construction archaeology are identified.

Riehl, Simone (Tubingen University)

[224] *Holocene Climate Change And Adaptation In Ancient Agricultural Societies In The Near East (5300-2000 Bp): The Archaeobotanical And Stable Carbon Isotope Evidence*

Stable carbon isotope data from 9 archaeological sites in the Near East, dating from the Chalcolithic (5250 BP) onwards are presented. The results suggest decreasing water-stress in barley throughout the Early Bronze Age. With the transition from the Early to the Middle Bronze Age stress signals in barley seem to strongly increase for a short period. In the course of the Middle Bronze Age until the end of the Late Bronze Age water-stress decreased and remained on a moderate level until modern times.

Riel-Salvatore, Julien (McGill University)

[100] *Neanderthal Niche Construction? Patterns of Late Pleistocene Technological Change in Italy*

By mediating human-environment interactions, technology provides a window into the relationship between behavior and ecology, two of the inheritance domains of niche construction theory (NCT). The coarse-grained paleoanthropological record allows for an integration of behavioral and paleoecological shifts with long-term trends in human biological evolution, and archaeology specifically offers a way to document the behavioral dimension of NCT in the longue durée. This paper argues that changes in lithic technology

can profitably be interpreted as instances of prehistoric niche construction, as suggested by case study drawn from the record of the Middle-Upper Paleolithic transition in Italy.

[100] Chair

Riel-Salvatore, Julien [154] see Barton, C. Michael

Rieth, Christina (New York State Museum), Jared Latimer (University at Albany), Renee Morgan (University at Albany), Sean Rafferty (University at Albany, SUNY) and Steven Moragne (University at Albany, SUNY)

[24] *Experimental Archaeology and Pottery Manufacture: A Case Study from the Schoharie Valley, New York*

Experimental reconstruction of pre-Contact vessels represents a viable means of reconstructing past behavioral processes. This paper discusses recent experiments conducted to replicate pottery manufacturing techniques as represented in Early (1000 B.C. to 100 A.D.) and Late Woodland (A.D. 900-1500) ceramic assemblages from the Schoharie Valley of New York. Experimental reconstruction of vessels is designed to address questions related to the various clay and tempering materials used and why specific materials (often procured from non-local sources) were favored over others. This study is expected to provide insights into the socio-economic processes that often influenced pottery manufacture.

Riley, Carroll [34] Discussant

Riley, Timothy (Palynology Laboratory Texas A&M University)

[120] *Evidence of Agriculture in the Bonneville Basin?: A Preliminary Investigation of the Microbotanical Record of the Bonneville Estates Rockshelter*

The role of agriculture among the Fremont has a long history of debate, particularly in the fringes of the territory occupied by these cultures. This study presents the results of an experimental microbotanical investigation of the Fremont occupation of the Bonneville Estates Rockshelter. This rockshelter is beyond the margins ascribed to Fremont agriculture. The protected nature of this site provides an opportunity to recover starch, phytoliths, and pollen from a variety of contexts, including groundstone implements, pottery sherds, and coprolites. This is compared with evidence from other sites located in the agricultural core of the Fremont area.

Rimmer, Virginia (University of Chicago)

[206] *Silver Jewelry as Money in the Iron Age Near East*

The ubiquitous presence of broken jewelry in Near Eastern silver hoards of the Iron Age complicates linear models of a transition from an embedded, pre-monetary economy to a monetized, market economy accompanying the invention of coinage. Ethnographic and historical accounts of societies in which currency is available but is regularly diverted from its potential for use in exchange suggest that explanations of the development of a market economy in the eastern Mediterranean should privilege political and social changes rather than the introduction of new exchange technology.

Rinck, Brandy (Northwest Archaeological Associates)

[305] *Using Micromorphology to determine the composition of two Archaic period pits at Sandy Hill, CT.*

Micromorphology was used to analyze thin sections from two Archaic period pits from the site of Sandy Hill. The pits looked similar in the field; however, they had different compositions under the microscope. The black sediment from one of the pits is due to dense charcoal. The other pit is composed of ancient and modern organic matter with little charcoal and loosely packed microstructure. This suggests the two pits held different functions in their final phase of use. Micromorphology has helped disprove the assumption that dark sediment within features at Sandy Hill is due to the presence of charcoal.

Rincon Mautner, Carlos

[71] *Pictograms, Petroglyphs and the Development of Writing in the Mixteca.*

A rich assemblage of pictograms from the Mixteca region constitute the basis for proposing that the roots for the system of recording that resulted in the development of pictographic writing during the Classic and Post-Classic periods may be found at a number of sites along streams, rock shelters and caves throughout this region. Some of the painted symbols represented appear to date to the Archaic. This presentation focuses on the adoption of certain early conventions and the development of a canon of symbols used in creating narrative accounts.

Ringle, William (Davidson College) and Andrew Willis (Dept. of Electrical and Computer Engineering/ Univ. of North Carolina, Charlotte)

[97] *Experimental Recording of Large Features by Means of Dense 3D Laser Scans at Huntichmul, Yucatan, Mexico*

The measurement, analysis, and depiction of irregular archaeological features are often costly and time consuming, and frequently idealize their objects. Furthermore, calculation of geometric properties such as volume can only be coarsely approximated. This paper discusses the application of 3D laser scanning technology to the recording of chultuns and masonry structures in the Puuc Hills. Laser scanning offers the promise of highly accurate quantitative records of feature geometry, useful also for the planning of reconstruction and consolidation. The utility and limitations of the technology are presented, together with suggestions for future implementation.

Riordan, Robert (Wright State University)

[207] *The Moorehead Circle at Fort Ancient, Ohio*

The remote-sensing discovery of a circular feature almost 60m in diameter in the North Fort of Fort Ancient, Ohio, since dubbed the Moorehead Circle, has led to two excavation seasons devoted to its investigation. Two units have bisected its perimeter, where post pits that supported an estimated 200+ large vertical wooden posts buttressed by literally tons of limestone rock were found. A strong magnetic anomaly was detected at the center of the Circle. Excavation has revealed a 4.5m-diameter pit almost 1m deep filled with burned soil, surrounded by ceramic deposits, pits, posts, and three trenches.

Rissolo, Dominique (Waitt Institute for Discovery)

[280] *Regional Cave Studies along the Central Coast of Quintana Roo: Constant Challenges and Recent Advances in the Xcaret-Xamanha Area*

The site of Xcaret was once a key commercial and ceremonial coastal center as well as a port of embarkation for the island of Cozumel. The political, social, and economic landscape surrounding Xcaret and its sister site, Xamanha (Playa del Carmen), during the Postclassic Period gave rise to a vernacular cave use tradition unique to region. A comprehensive evaluation of the numerous caves dispersed throughout an extraordinarily dense Postclassic settlement zone has been hindered by the rapid pace of tourism-related development. New research strategies focus on gaining access and collecting cave data via relationships with various public and private interests.

Ritchie, Patrick (SFU), Adrian Sanders (University of Victoria) and Dana Lepofsky (Simon Fraser University)

[52] *Ancient Settlements on the Harrison River, Southwest British Columbia*

The Harrison River, the largest tributary of the Fraser, was a transportation gateway linking coastal and interior peoples. The Chehalis intensively occupied settlements along the river and created a landscape that expressed ownership and control. These ancient settlements are comprised of pithouses and plank houses that are flanked by burial mounds. We present an overview of 13 settlements on the Harrison River, and focus on Hiqelem, the most complex and intensively occupied. Mapping and dating efforts demonstrate continuity in house styles and burial practices spanning millennia. These data in turn reflect the longevity of social groups living at Hiqelem.

Rivas, Pilar [292] see Flores-Fernandez, Carola F.

Rivera, Mario and Pablo Cañarte

[37] *Site Museums and Patrimonial Resources. The Role of the Civil Society in Northern Chile Archaeology.*

The Chilean economy rapid development coupled with governmental social policies into scientific and cultural research projects do not reflect the integration of the civil society due to: 1) persistence on old models of research, and 2) financial support, both public short term funding, and private subsidy usually as compensation for environmental permits. This paper argues that these factors do not allow a modern vision where the scientific activity relates to the socio-economic and cultural development of the people, mainly the indigenous communities that inhabit these territories. Three projects are presented as indicative: Tular, El Mauro, and Ramaditas/Guatacondo.

[231] *Discussant*

Rivers, Ray [261] see Knappett, Carl

Rizvi, Uzma (Pratt Institute)

[229] *Reconstructing life: Uncovering the biopolitics of urbanism*

Archaeological research has demonstrated the inscription of power on bodies, and the control of elite over other bodies in the establishment of sovereign power. Positing an alignment of the origin of the use of the human body as a political tool to the origins of urbanism, specifically in the Old World, this paper provides a provocative study reformulating and rearticulating the ways in which the human body is thought to have belonged to ancient urban societies, and how the very nature of being urban is predicated upon the use and dispensability of biological life.

Robbins, Gwen [99] see Whyte, Thomas

Roberts, Andrew (Texas A&M University) and Suzanne Eckert (Texas A&M University)

[156] *Economic Interaction between Ancestral Polynesian villages on Tutuila Island, American Samoa*

This research explores interaction between Ancestral Polynesian villages on Tutuila Island, American Samoa by seeking to define the nature of pottery circulation. Using ceramic chemical compositional data gathered from LA-ICP-MS, we test three possibilities: no exchange between villages, localized exchange between villages in spatial proximity, and exchange between villages throughout the island. Preliminary data suggest that pottery was exchanged between some villages, but not others. Understanding the nature of intra-island exchange has important implications for island-wide economic and social organization, which in turn dictated the nature of interaction between islands and archipelagos.

Roberts, Ben (British Museum)

[96] *Cultural Transmission and Technological Choice: the early development of metal in Western Europe*

Models of the early development of metallurgy in Western Europe tend to be orientated towards the availability of ore sources and technological expertise which provide only partial explanations. The role of prehistoric craftspeople and their communities in this process is often marginalized. It is argued that metallurgical apprenticeships and the subsequent movement of metallurgists created networks of expertise across regions. However, it was individuals and communities in each region that shaped the nature of early metal use and production.

[96] *Co-Organizer*

Roberts, Charlotte (Durham University) [291] *Discussant*

Roberts, Christopher (School of Human Evolution and Social Change, Arizona State University)

[255] *We're all the same, only different: Theorizing the link between katsina iconography and social integration in the prehistoric North American Southwest*

Through the use of social theory, Pueblo IV period (c. AD 1300-1600) katsina iconography can be explicitly linked to past social processes. I propose that the iconography of the 'katsina cult' was possessed of several different meanings at the same time. Using Pierre Bourdieu's social theory the multiple meanings of katsina iconography can be shown to create a social space where agents could feel that they belonged to a similar tradition even if they came from different social and geographical backgrounds. By providing a middle-ground, katsinas integrated diverse peoples in a time of widespread migration.

Roberts, Tanya (University of Alberta)

[142] *Fishing and Cultural Transformations in Southwest Washington: Subsistence and Settlement Patterns at the Minard Site, Grays Harbor*

Settlement and subsistence patterns of pre-contact indigenous peoples of the southwest Washington coast are based on models developed for the Lower Columbia River. These models suggest seasonal movements of people between the Columbia River and nearby estuaries largely as a response to availability of fish. Analyses of fish remains from the late period Minard site (45GH15) suggests these existing models do not adequately explain the settlement patterns and subsistence practices at the site. This paper highlights discrepancies between the historic/ethnographic and the archaeological records and examines the roles colonialism and regional cultural variability played in shaping these differences.

Roberts, Theodore (National Park Service Northern Arizona University)

[317] *Inferring Hunter-Gatherer Mobility Through Obsidian Geochemical Sourcing: Archaic Period Lithic Procurement and Use Around the San Francisco Peaks, Arizona*

Hunter-gatherer procurement ranges in Northern Arizona during the Archaic Period are investigated. Hunter-gatherer bands throughout prehistory practiced a highly mobile way of life, yet the geographic variability of mobility strategies differs significantly. Northern Arizona is an area that exhibits extensive Archaic occupation, yet lacks a comprehensive reconstruction of mobility adaptations. Did Archaic Period bands practice high mobility based on subsistence constraints with toolstone selection simply integrated into their strategy or did procurement of raw material partially define mobility strategies? Geochemical variability and spatial distribution of obsidian sources are used to infer mobility and raw material procurement and use.

Robertshaw, Peter (California State University)

[76] *Beyond the segmentary state: types of power, their distribution and history in Uganda*

Ancient Bunyoro-Kitara in Uganda has been called a segmentary state. However, recent archaeological research refutes this assertion. An examination of the Nyoro state of the 19th century reveals both a centralized state and other nodes of power, whose influence and authority derived from creative power, which invents forms of meaning and may be considered to exist *sui generis*. Moreover, wealth was probably measured more in terms of people than in goods. These insights promote a heterarchical view of the past that improves our understanding of ancient Bunyoro-Kitara and also helps explain the role of archaeology in modern Ugandan politics.

Robertson, Elizabeth (University of Saskatchewan)

[250] *Archaeometric investigation of physical variability in Beaver River Sandstone artifacts*

Alberta's Fort McMurray region incorporates extremely large numbers of archaeological sites dominated by artifacts composed of Beaver River Sandstone (BRSS). Although techniques like x-ray diffraction and petrographic thin section suggest that BRSS displays little compositional variability, its overall appearance in artifacts from different sites is widely disparate. Some researchers argue that this disparity reflects differential access to higher or lower quality BRSS outcrops by various groups, while others suggest that it reflects use of heat treatment at some sites. This paper discusses ongoing archaeometric efforts to

identify the reasons for and interpret the significance of physical variability in BRSS artifacts.

Robertson, J. David [6] see *Coleman, Magen E; [167] see Popelka-Filcoff, Rachel S.*

Robichaux, Hubert (University of Texas At San Antonio) and Candace Pruett (Unaffiliated)

[253] *Ancient Maya Writing and Iconography at Oxpemul, Campeche*

Discovered in 1934, but lost thereafter until 2004, Oxpemul contains a rich iconographic and textual record that illuminates culture and events in the 8th and 9th Centuries A.D. Twenty-one stelae, many well-preserved, and 25 altars, many carved, are currently known. This paper highlights our current understandings of them. A local "stone-throne" emblem glyph appears frequently in the texts, and a few instances of a "bat emblem glyph" are also present. The inscriptions have relevance to the ancient cities of Calakmul, Tikal, and possibly Dzibanche.

Robichaux, Hubert [253] see *Folan, William J.*

Robin, Cynthia (Northwestern University)

[302] *The Chan Site: An Introduction*

This presentation introduces the 2000 year history of the Chan site. Scholars have long recognized that studies of rural producers are critical for understanding human societies. This is particularly the case in agrarian-based complex societies, like the ancient Maya. Only by incorporating the detailed studies of farming communities into well-studied analyses of civic-centers and regions can we adequately model the dynamics of organization in a society. Adopting such an approach research at Chan (1) demonstrates the complex and changing nature of farming community life and (2) explores the impact of a farming community on larger socio-political relations and vice versa.

Robin, Cynthia [302] see *Docster, Elise M.; [302] see Meierhoff, James W.; [302] see Hetrick, Chris*

Robins, Judith [256] see *Matisoo-Smith, Lisa*

Robinson, Brian (University of Maine Anthropology Department and Climate Change Institute)

[19] *Archaeological Tradition and Explanation in New England*

It is the burden and power of regional traditions that they must be built up from more or less eclectic archaeological signatures on varied landscapes. Hunter-gatherer societies adapted to ever-present environmental, social, and ritual factors. In New England, contrasting technological systems are strongly correlated with both environmental zones and broad ritual areas. In parts of this region, the "Archaic Period" (which comprises about 60 % of the span of human occupation) may represent cultural continuity more strongly than evolutionary change. Grand explanatory schemes must be disaggregated and fit to historical scales, at which quite precise hypotheses may be tested.

Robinson, Eugenia (Montgomery College)

[136] *Memoried Ritual: Rock Art and Ethnicity at La Casa de las Golondrinas*

Andrea Stone has pioneered research at rock art sites in Southern Mesoamerica and has interpreted these open air sites at sacred locations near water as having political and religious representations. This paper will detail the chronology and ritual behavior at La Casa de las Golondrinas, in the Highlands of Guatemala, where ritual during two millennium at a sacred mountain is maintained in spite of a changing ethnic landscape.

Robinson, Hugh L. [2] see *Hurst, Winston*

Robinson, Tucker J. [2] see *Hurst, Winston*

Robles Garcia, Nelly (Instituto Nacional de Antropología e Historia) [151] *Discussant*

Robles Garcia, Nelly [110] see Warinner, Christina

Robles-Camacho, Jasinto (Instituto Nacional De Antropología E Historia, Mexico) and Ricardo Sanchez-Hernandez (Instituto Nacional de Antropología e Historia)

[74] *Uso alternativo de rocas y minerales verdes en Mesoamerica*

El uso de rocas y minerales verdes en las sociedades prehispánicas fue amplio, particularmente en las obras lapideas. Entre los olmecas (>1200-900 a.C.) abundan piezas de jadeíta gris, gris-azulosa y verde esmeralda, y serpentinitas verdes. En el sitio occidental de El Peñón (1500-1000 a.C.) ocurren piezas de jadeíta gris y verde esmeralda, que alternan con caolinita gris y azul, cuarcita verde, crisoprasa. El reemplazo de materiales pudo deberse al agotamiento de los yacimientos o a la incorporación de nuevos materiales como la turquesa y la amazonita (c.500 d.C.) en los sistemas de distribución de bienes de lujo.

Rocek, Thomas (University of Delaware)

[260] *Navajo Archaeology Comes of Age*

Recent decades have brought major shifts in the data available for Navajo archaeology and consequently in the problems accessible for archaeological research. With rare exceptions, Navajo archaeology through the 1970s concentrated on direct historical approaches to Navajo origins, often relying on isolated site reports and relatively speculative models of Athapaskan arrival in the Southwest. Improved strategies for dating late prehistoric sites has opened up the early period of Navajo occupation in the Southwest to more direct study, while large regional CRM-generated databases have broadened research questions to include economic, social and political transformations throughout Navajo prehistory and recent history.

Rockman, Marcy (PCR Services Corporation)

[174] *Archaeology of Unfamiliar Places: A Report on Updates to the Landscape Learning Process Model*

I first proposed the landscape learning model 10 years ago as a means of comparing the processes of initial colonization and environmental familiarization across time and space. Since that time, the model has been defined as consisting of three types of environmental knowledge (namely, locational, limitational, and social knowledge) and has been applied to a diverse array of contexts, including late glacial, Neolithic, and historical dispersals. This paper presents a summary of recent and ongoing efforts to update to the landscape learning model, including knowledge-type timeframes, ethnographic and ethnoarchaeological contributions, relationship to evolutionary theory, and applications to specific case studies.

Rockmore, Matthew (Pennsylvania State University)

[262] *Colonial Maya Households in the Southern Lowlands: an Archaeological and Ethnohistoric Study*

This study presents original ethnohistoric research into parish records from 18th century Petén, Guatemala in conjunction with previously published archaeological data from Early Historic Belize and Lowland Guatemala. Those data are examined to identify demographic and economic trends in Maya commoner households over the Early Historic period. This includes studies of mortality, fertility, household size and population mobility. Additionally, I will compare those trends with what is known of Late Postclassic archaeological patterns in the area.

Rockwell, Thomas [210] see Johnson, John R.

Roddick, Andrew (University of California, Berkeley)

[244] *Late Formative Ceramic Production on the Taraco Peninsula, Bolivia*

Ceramics are foundational to Formative Period research in the Lake Titicaca Basin. Investigators have increasingly relied upon ceramic pastes for defining chronological frameworks and socio-economic processes. Focusing primarily on the late Formative Period (200 BC- AD 300), I present one of the first compositional analyses of the Southern

Titicaca Basin, examining ceramics from the Taraco Peninsula as well as its local clay resources. Building upon evidence of ceramic technology from Late Formative Period settlements on the Taraco Peninsula, I present the results of recent mineralogical and chemical analyses, including x-ray diffraction, portable energy dispersive x-ray fluorescence and petrography.

Rodman, Julie-anna (US Forest Service)

[225] *The Effects of Morphological Variables on Archaeological Use of Eleven Lava Tube Caves on the Eastern Snake River Plain, Idaho*

Archaeological investigations in eleven lava tube caves on the Eastern Snake River Plain have produced a substantial record of prehistoric cave use. Morphologic variables including the size and orientation of cave openings, depth and length of the cave, and proximity to nearby caves influenced prehistoric use of the caves. Artifact assemblages indicate that the caves were used archaeologically as habitation locations, lithic workshops, food storage, and water collection areas. Speleocentric investigations are shedding light on the variations in prehistoric cave utilization. This paper details the morphologic variables that contribute to differences in archaeological utilization of lava tube caves in Idaho.

Rodning, Christopher (Tulane University)

[114] *European Contact, Public Architecture, and Cherokee Towns in the Southern Appalachians*

Public structures known as townhouses were hubs of public life in Cherokee towns before and after European contact, and they were landmarks for Cherokee towns in the southern Appalachians. This paper summarizes continuity and change in Cherokee townhouses from late prehistory through the eighteenth century A.D. These trends are related to native responses to European contact in the southeastern U.S. Townhouses were a source of cultural stability and conservatism during a period of dramatic cultural change, and they also were an architectural medium through which Cherokee towns adapted to the changing environment of the Southeast.

Rodrigues, Teresa (Gila River Indian Community) and Chris Loendorf (Gila River Indian Community)

[20] *Hohokam Classic Period Community Health: Perspectives from the Middle Gila River*
Bioarchaeological studies have suggested that the Hohokam experienced poor health and short life spans during the Classic Period (AD 1150-1450). However, research has focused on Pueblo Grande, a Hohokam community on the Salt River, and community health among the contemporaneous Hohokam populations located on the middle Gila River is largely unknown. Ongoing investigations in the Gila River Indian Community provide data that are used to evaluate regional trends in health patterns among individuals living within the Hohokam core area, and to assess the role of health factors in the Classic period Hohokam collapse.

Rodrigues-Carvalho, Claudia (Museu Nacional/UFRJ)

[139] *Shellmidden in Brazilian Southeast: bioarchaeological singularities of Rio de Janeiro State sambaqui groups*

Bioarchaeological studies of sambaqui people have produced a great amount of data which have been utilized to reconstruct general models of past lifestyles along the Brazilian coast. Although sambaqui people shared many features in common, some variability was also observed, associated to different biocultural factors. Bioarchaeological and archaeological data from selected sambaqui sites in Rio de Janeiro State were utilized to reconstruct sambaqui people singularities. Although environment played an important role in inter-group variation, a rich mosaic of daily life distinctiveness can also be suggested, indicating the need to improve comparative studies focused on these particularities.

Rodríguez, Bernardo [180] see Sugiyama, Nawa**Rodriguez Ramos, Reniel**

[240] *What is the Caribbean?*

The Caribbean as a culture area has traditionally been limited to the Antilles and

northeastern South America. This geo-cultural construct has thus served to alienate the Antillean chain from other surrounding continental regions. Evidence recently recovered from the Antilles that indicates long-term macro-regional interactions across the Caribbean landscape will be presented. These data will be used to show the inadequacy of the current configuration of the Caribbean culture area and to propose the consideration of the Greater Caribbean as a geohistorical area of study.

Rodriques, Teresa [46] see Meegan, Cathryn

Roebuck, Paul [62] see Dykeman, Douglas D.

Rogers, Alexander (Maturango Museum)

[241] *Estimation of Obsidian Hydration Rate by the Total Least Squares Method*
Despite advances in laboratory techniques, most obsidian hydration rates today are estimated by association of hydration rim thickness with other chronometric data, such as radiocarbon. The rate is then computed as a linear least-squares best fit between chronometric data points and the square of the rim thickness of the associated obsidian artifacts. However, uncritical application of this technique can lead to significant errors in the rate, due to tacit assumptions built into the mathematics of most least-squares software. This paper discusses the source of these errors and describes a technique to avoid or minimize them, the Total Least Squares algorithm.

Rogers, J [137] Co-Organizer

Rogers, J. Daniel [137] see Cioffi-Revilla, Claudio

Rogers, Michael [29] see Braun, David R.

Rogge, A.E. (Gene) (URS Corporation) and Bruce Phillips (EcoPlan Associates)

[111] *The Challenges of Investigating and Interpreting the Oldest Known Site in the Phoenix Basin*

The Last Ditch site was recorded as an extensive but extremely sparse scatter of Hohokam artifacts on an alluvial apron west of the McDowell Mountains. Two testing projects serendipitously discovered buried features dating to the Middle Archaic and Late Archaic/Early Agricultural periods, making it the oldest documented site in the Phoenix Basin. In 2006, the rest of the 80-hectare site was tested, and in 2007, one of the clusters of deeply buried hearth features that were found was excavated. The research challenges of the ancient but meager archaeological record of the Last Ditch site are discussed.

Roksandic, Mirjana (University of Winnipeg)

[139] *Skeletal remains as embodied past: building a picture of a prehistoric group from individual experiences*

Biological aspects of anthropological research emphasize population as a study unit, for a number of soundly based scientific reasons. Archaeological science stands to lose by focusing on a group as a unit of research, especially when examining burial rituals and the associated skeletal remains. However, focusing on an individual as the source of understanding is both tricky and fraught with problems. Building my case on detailed analysis of burials from Muge shell middens, I will discuss this aspect of archaeological research that relies heavily on bioarchaeological data in the burial context.

[139] see Leonard, Sarah; [139] see Jaagumagi, Alyson

Rolland, Nicolas (University of Victoria Prehistoric Anthropology Research Canada)

[75] *The Palaeolithic of East and Southeast Asia: A Human Biogeographic and Ecological Perspective*

Monsoon Asia is dominated by a diversity of forest ecosystems that Pleistocene fluctuations did not alter radically. Its markedly high primary productivity, and biodiversity provided optimal circumstances for broad-spectrum Palaeolithic foragers exploiting foods at different levels of the trophic pyramid, and organic raw materials. These ecosystems overlap with the Palaeolithic of the "Movius Line". Reconciling such conditions with 'bio-

cultural stagnation' remains problematic.

Roman, Silvia [58] see Flores, Luis

Roney, John (Colinas Cultural Resource Consulting), A.C. MacWilliams (University of Calgary), Karen R. Adams (Crow Canyon Archaeological Center) and Robert J. Hard (University of Texas, San Antonio)

[185] *Revisiting Settlement Patterns in North-Central Mexico*

In an influential 1956 review of settlement patterns, J. Charles Kelley suggested a continuum of four major complexes from Durango and Zacatecas in the south, northward to the Rio Grande and southwest United States. The proposed continuum occurred in a restricted ecological corridor east of the Sierra Madre Occidental. Current data support Kelley's continuum, while allowing for increasingly specific observations about chronology, distribution and settlement patterns. In several but not all instances there are gradational zones between complexes, where local variability is evident within broader regional patterns. The complexities of Kelley's original ecological corridor are also better understood.

Roney, John [34] see Hard, Robert J.

Roos, Christopher (University of Arizona)

[45] *Palimpsests and Short-Term Occupations of Early Pithouse Period Sites in East-Central Arizona*

Recent research at the Hall Point Site (AZ P:11:300 [ASM]) and reexamination of contemporary Mogollon Rim pithouse sites indicates that clusters of pithouses that date prior to AD 600 are not the remains of early agricultural villages. Rather, variability in architectural form, storage features, paleobotanical assemblages, and post-abandonment deposits suggest that Early Pithouse sites were loci of short-term, sporadic occupations by mobile hunter-gatherer-gardeners. This poster presents chronometric, environmental, and architectural data from Hall Point (cal AD 71-228) as well as comparisons to contemporary Early Pithouse sites (AD 1-600) along the eastern Mogollon Rim.

Roos, Christopher I. [45] see O'Grady, Caitlin R.; [45] see Mink, Philip B.

Roosevelt, Anna

[178] *Non-state complex societies in South America: Implications for archaeological method and theory*

This presentation evaluates method and theory about elites in preindustrial states with evidence from South America. The cultures of hierarchical and centralized elites were considered necessary to organize intensive food production for growing populations in resource-rich, heterogeneous regions. States would not, therefore, form in sparsely populated, resource-poor, homogeneous regions. In the Andes and Amazonia, however, prehistoric non-state societies achieved complex cultures with a range of different subsistence and settlement systems in quite different ecological settings. The archaeological patterns encourage reworking of the theories and research strategies.

Roosevelt, Christopher (Boston University) and Christina Luke (Boston University)

[39] *Introduction: Surveying the Landscapes of Central Lydia*

The natural landscapes of central Lydia surrounding the Gygaean Lake include alluvial and lacustrine plains, broad rolling hills, and steep, rocky ridges and peaks. These landscapes were home to diverse sites throughout their history, beginning before the Early Bronze Age and extending through the present. The current project takes a multi-pronged approach, contextualizing a variety of paleoenvironmental and archaeological methods within a landscape archaeological framework. We highlight the potential of systematic survey, aerial and satellite image analysis, and high-accuracy GPS and geophysical mapping for elucidating long-term environmental and cultural dynamics in this important area of western Anatolia.

[39] Co-Organizer

Roosevelt, Christopher H. [39] see *Vining, Benjamin*; [39] see *Boulanger, Matthew T.*; [39] see *Luke, Christina*; [39] see *Ozguner, Nimet Pinar*; [39] see *Besonen, Mark R*

Rosania, Corinne (MU Research Reactor), Matthew T. Boulanger (University of Missouri Research Reactor) and Michael D. Glascock (University of Missouri Research Reactor)

[216] *Geochemical Analysis of Central and Eastern European Obsidian*

Obsidian tools were produced throughout Central and Eastern Europe over an extensive period of time. A comprehensive database of obsidian source geochemistry would help archaeologists address questions of trade, exchange, and territory. Here we discuss obsidian sources in Central and Eastern Europe. New geochemical data characterizing the variability within and among sources is also presented. Using X-ray fluorescence and neutron activation, we build upon previous efforts by increasing the number of source samples and the number of elements used to define compositional groups. Several case studies demonstrate the archaeological utility of the database.

Rose, Courtney (Old Pueblo Archaeology Center)

[104] *Hohokam Classic Period Transition--A Local Perspective from Two Residential Sites* Widespread shifts in Hohokam settlement and lifeways are documented for the Classic period, starting around AD 1100. This study looks at changes in Hohokam village organization from a local perspective by comparing two Hohokam residential sites from the Tucson Basin in Arizona. One site dates to the transitional Late Rincon phase (AD 1100-1150) and the other primarily to the Tanque Verde phase (AD 1150-1325) of the Classic period. Village-level courtyard group and residential patterns, craft specialization, and subsistence are examined from these two sequentially occupied sites to better understand the nature of changes in Classic period Hohokam social organization.

Rosen, Arlene (Institute of Archaeology (University College London))

[115] *Natufian patterns of plant exploitation: managing risk and stability in an environment of change*

Natufian foragers are widely considered to be the direct forerunners of early agricultural societies in the Eastern Mediterranean Levant. However, little is known about their patterns of plant exploitation in general and their use of cereals in particular. This study reports on results from the phytolith analyses of several Natufian sites located in the Mediterranean core zone of Natufian culture. Preliminary results suggest that there might be significant differences between plant exploitation in Early versus Final Natufian Periods. Although grass-seeds are actively exploited, a variety of grass genera were used, rather than a focus on wild wheat and barley.

[115] *Co-Organizer*

Rosen, Arlene M. [115] see *Portillo, Marta*

Rosenberg, Danny [115] see,

Rosenberg, Noah [223] see *Schroeder, Kari B.*

Rosenmeier, Michael [190] see *Olsen, Sandra L.*

Rosenstock, Eva [276] see *Biehl, Peter F.*

Rosenstwig, Robert (The University At Albany - SUNY)

[227] *Cuauhtémoc Economy and Aesthetics: 800 Years of Change in One Soconusco Community*

Data are presented from the site of Cuauhtémoc occupied from the Barra-Conchas phases 1600-800 BCE. Faunal, isotopic and groundstone data as well as the initial use of grater bowls indicated a major transformation of the economy occurred during the Conchas phase when plant and animal exploitation became markedly more intensive. In contrast, major changes in figurines styles and pottery decoration occurred centuries earlier during the Cherla phase when naturalistic standards were replaced by abstract forms of

representation. These data show how Cuauhtémoc was affected by the flow of goods and ideas before, during and after the florescence of San Lorenzo.

Roskamp, Hans [121] Discussant

Ross, Douglas (Simon Fraser University)

[27] *Material Strategies of Asian Immigrant Labourers in British Columbia*

Until recently, archaeologists studying Asian immigrants in western North America have focused almost exclusively on the Overseas Chinese. Very little comparative work has been done to identify how, from a material culture perspective, the processes and challenges of adaptation to a new and foreign environment varied between Chinese and other Asian groups. Excavation of discrete Chinese and Japanese deposits from an early 20th century British Columbia salmon cannery provides an opportunity to draw such comparisons within one local context. Results suggest that demographics, labour relations, and cultural-historical legacy all play a role in producing quite distinctive assemblages.

[27] *Chair*

Ross, Julie [17] see Finkelstein, Sarah A.

Roth, Barbara

[154] *Jelinek's Mimbres Valley Survey and the Mimbres Mogollon*

In 1967, Arthur Jelinek conducted a survey of portions of the Mimbres River Valley in southwestern New Mexico. Along with Graybill's survey of the Gila National Forest in the northern Mimbres Valley, this represented the first professional survey of the area. In this paper, I use Jelinek's survey notes and data from recent fieldwork in the valley to discuss how settlement location data can inform us about Mimbres Mogollon Pithouse period adaptations.

[38] *Co-Organizer [38] Moderator*

Roth, Barbara [111] see Roudaut, Marie-Blanche

Rotman, Deborah (University of Notre Dame) [166] Discussant

Roudaut, Marie-Blanche, Barbara Roth (University of Las Vegas) and Marie-Blanche Roudaut (Tierra Right of Way Services)

[111] *Site Boundaries and Late Archaic Settlement on the Santa Cruz River Floodplain*

Our understanding of Late Archaic/Early Agricultural occupations of the Santa Cruz River floodplain in southern Arizona have been heavily influenced by their location in "sites" defined by artifact and feature distributions. In this paper, we use data from a number of recent projects that have documented deeply buried Archaic deposits to challenge the notion that these occupations occurred as discrete entities with formal boundaries. Instead, we argue that floodplain occupations should be examined on a larger scale, and may represent fluid and variable use of the floodplain.

Roudaut, Marie-Blanche [126] see Elliott, Michael; [111] see Roudaut, Marie-Blanche

Routledge, Bruce [268] see Porter, Benjamin

Rowe, Marvin (Texas A&M University)

[71] *Rock Art in Qatar, a Desert Almost Devoid of Rocks*

About 60 kilometers northeast of the capital city of Doha, Qatar, lays the largest of several petroglyph sites in the country, Jabal Jassasiyah. It contains over 900 carvings. By far the most common are cupules, usually arranged in geometric patterns. Perhaps the more unusual and interesting carvings are of dhows (boats), depicted both from above and in profile. There is little evidence to support the claim that these carvings are as old as 3000 years or more. Examples of all forms of petroglyphs in Qatar will be shown. A potential means of determining the lower limit on the age is proposed.

Rowe, Marvin [126] see Cole, Sally J.

Rowe, Robert (Environmental Planning Group (EPG))

[255] *Return of the Tales of the Blue Scorpion*

The mines of Nan'ak-na'sh'el-mek in southern Arizona, currently the only known Hohokam large-scale turquoise mining/processing site, were operated for approximately 300 years then abandoned. Earlier papers have focused on the spatial layout, artifacts, beacon fires and associated trails, and the postulated routes that turquoise was traded along. This paper focuses on procurement techniques associated with prehistoric turquoise mining. These analyses were used to suggest how the materials were mined and what effort was expended to extract the raw blue stone. Comparisons with other turquoise mines in the southwest are used to investigate the patterns in mining and processing techniques.

Rowley, Susan (Museum of Anthropology) [271] Discussant**Royce, Karen (The Ohio State University)**

[207] *Early Late Woodland Community Patterning in the Middle Ohio Valley*

A geophysical investigation using a fluxgate gradiometer was conducted at the 9-acre early Late Woodland (circa A.D. 550) Water Plant site (33FR155) in Columbus, Ohio. The primary goal of the investigation was to better understand the community intrasite patterning of this village site. The geophysical data confirmed the presence of a prehistoric D-shaped ditch and was used to identify another, previously unknown, semi-circular prehistoric ditch within the site. Numerous other large prehistoric features were identified as well. Feature excavations, radiocarbon dating, magnetic susceptibility data and previously conducted pedestrian surveys were also used in the interpretation of intrasite patterning.

Ruff, Christopher [276] see Larsen, Clark Spencer**Rufolo, Scott (The Johns Hopkins University)**

[296] *Specialized Pastoral Production to Meet Urban Demand: An Early Bronze Age Example from the Khabur Basin, Syria*

Archaeological investigation in the Khabur Basin documents initial urbanization during the 3rd millennium BC. The growth of urban centers entailed changes in subsistence practices throughout the region. Among the new developments, socio-economic incorporation of pastoralists into the nascent urban system was of particular import. The new economic reality required a greater organization of livestock management in order to support an intensification of pastoral production. Employing faunal data from five sites, this paper explores the strategies used by ancient herders of the Khabur Basin to negotiate the potential risks and rewards of an increasingly specialized pastoralism within an urban complex.

Ruggles, Angela (University of British Columbia) and Michael Olivotto (University of British Columbia)

[172] *A preliminary culture history of the early to mid-Holocene on the Dundas Islands of north Coastal British Columbia*

Until recently there were no known sites prior to 5000 BP in Tsimshian territory on the northern NW Coast. However, new research has located 6 sites with components dating to earlier than 5000 BP, and 4 dating to earlier than 6500 BP. We present a case study of one of these early villages, T522-1 (6500-5000 BP) and two other villages, T512-1 (4000 BP) and T512-3 (1500 BP), to illustrate the continuity of the chronological sequence of village development in the region. We posit that these villages represent the regional development from an "egalitarian" to "ranked" social and political organization.

Ruiz, Arturo (Universidad De Jaén)

[153] *Ways of Life and Forms of Power in the Iberians of the southern Iberian Peninsula*

This paper examines the way of life and its development by relationships of kinship, neighbourhood and work in order to adapt to changes imposed by social relationships and forms of power. Specifically, it analyzes the cliental gentilic lineage and its links with the neighbourhood nature of oppida for a consolidated heroic aristocracy associated with the urban way of life since the 5th century B.C. The paper takes into consideration the political

territories construed from the development of oppida, as well as the contradictions which this form of political representation may mean in relation to the former ethnic identities of the Bronze Age. Finally, it studies the concept of state in the Iberian world.

Ruiz, Mellissa R [171] see *Brown, Timothy M.*

Rumold, Claudia

[88] *The Development of Root and Tuber Agriculture in the High Andes: Starch Analysis Yields New Data*

Starch grain analysis of grinding stones from Jiskairumoko, an early village site in the highland south-central Andes, illuminates the importance of roots and tubers to populations shifting from hunting-gathering to agro-pastoralism. Results demonstrate the processing of plants ultimately forming the foundation of high-elevation Andean agriculture, including Solanum (potato) and Lepidium (maca). Comparison of starch from modern domesticated potato with starches from its closely related wild relatives indicates the possibility of distinguishing between domesticated and wild taxa. Jiskairumoko's starch record suggests that, by ~3800-3300 BP, potato had been domesticated and freeze-drying, a technological innovation with far-reaching implications, developed.

Runggaldier, Astrid (Boston University), Diane Davies (Tulane University), Jessica Craig (Kansas University) and Roxzanda Ortiz (San Carlos University, Guatemala)

[97] *What is Old is New Again: Patterns of Reuse in San Bartolo's Late Classic Reoccupation*

Investigations at San Bartolo, Guatemala, best known for its Late Preclassic apogee (400 B.C.-A.D. 250) have revealed a Late Classic reoccupation phase (A.D. 600-900) indicating patterns of ritual preparation in reused surfaces, and architectural recycling of both residential and monumental construction. This paper combines the extant evidence for reuse of abandoned residences, artifact assemblages in commoner and elite contexts, restoration of the early palace complex, and rituals of re-dedication of buildings and monuments. These practices deepen the overall understanding of San Bartolo's long history, while pointing to the power of social memory and the Maya sense of past achievements.

Rush, Laurie (US Army, Fort Drum)

[108] *Consideration of Archaeological Properties in Global Military Operations*

The Department of Defense is planning for effects of global military operations on archaeological and heritage properties. In addition to Soldier awareness materials like the playing cards, we have developed an archaeological reference website and on line educational materials for DoD personnel. With cooperation from the AIA, military archaeologists are partnering with subject matter experts to populate Command GIS databases and to establish reach back sources of information. There is also potential for using remote imagery to delineate accurate site perimeters and use this information to address global site identification and management issues.

[108] *Chair*

Rush, Laurie [108] see *Wager, Tracy C.*

Russell, Anthony (University of Glasgow)

[268] *Hybridisation in the Early Iron Age Levant: Migration and Social Identities*

Interpretations of the material changes seen in the Iron I Levant are polarised between those who promote a model of invasion and migration, and those who prefer to see these changes as a by-product of the shift in the economic environment following the breakdown of the Late Bronze Age international trading system. Such latter frameworks de-emphasize the movements of people. Hybridisation may provide a middle-ground view, where the changes reflect both a patterned, long term process of migration, and the interaction between migrants and the indigenous populations who receive them. Such a framework works best in a regionally-specific context.

Russell, Bradley (State University of New York At Albany)

[171] *Settlement Survey of Peripheral Mayapan*

This poster reviews the results of the Mayapán Periphery Project, a multi-year settlement survey of the territory located outside of Mayapán's large defensive city wall. The survey employed both mapping and subsurface testing to establish function and chronology of all architecture encountered along eight 250m wide transects extending out 1000m from the wall. Specific findings about settlement patterning including: distribution of agricultural, animal herding, lime production, administrative and ritual activities. Wealth differences between individual house groups will also be discussed. Settlement patterning outside of the wall will be compared and contrasted with what is known from inside it.

Russell, Nerissa (Cornell University), Dragana Filipovic (University of Oxford), Katherine Wright (University College London), Philippa Ryan (University College London) and Shahina Farid (Çatalhöyük Research Project)

[276] *Bringing Down the House: House Closing and Abandonment Deposits at Neolithic Çatalhöyük, Turkey*

At Çatalhöyük, lacking public architecture, ritual and identity are centered on the house. We explore alternative house closing behaviors and what they tell us about the lives of people and houses. Houses at Çatalhöyük are not simply abandoned and left to deteriorate, but are minded for useful materials, then subjected to various treatments before partial demolition and filling. These treatments include removing all contents and scouring out the floors and bins, or dumping some or all of the domestic stores on the floor; placing select items on the floor or not; and burning the house thoroughly or not at all.

Russell, Roland [220] see Tews, Amber M.

Russell, Will

[2] *Social Interpretations of Linear Ground Features in Central Arizona's Perry Mesa Region*

The Pueblo IV cultures of Arizona's Perry Mesa region borrowed from larger, neighboring societies, sharing characteristics with the Ancestral Pueblo, Hohokam, Salado and Sinagua. They had, however, no kivas, ballcourts or platform mounds. Prior to 2007, so-called "racetracks" (linear ground features resembling roads) had been located at eight pueblos in the region but largely ignored. Thirty-nine tracks have since been identified and studied. Attention was paid to construction, alignment, artifact assemblages and cross-cultural comparisons. Emerging patterns suggest these features represent a unique form of social architecture utilized in communal cohesion and ceremony.

Russo, Michael (Southeast Archeological Center)

[148] *Late Archaic Emergent Complexity in South Florida*

Between 4,000 and 5,000 b.p., ten shell ring- and mound-building cultures could be found from South Carolina to Mississippi. Archaeologically distinguishable from each other by unique ceremonial and monumental architectures, ceramic and shell tool technologies, and patterns of settlement, coastal ring builders were among the earliest hunter-gatherers in the Southeast to use new organizational forms to address increasingly complex social identities. In south Florida, monumental architecture and settlement patterns reflect complex social organizations that developed in response to demographic and environmental perturbations unique to the peninsula.

Ruvalcaba, Jose (Instituto de Fisica), Jannen Contreras (EnCRyM-INAH) and Jesus Arenas (IF-UNAM)

[74] *Non Destructive Study of Metallic Artifacts from the Chichen-Itza Cenote*

The Chichen-Itzá Cenote collection is composed by axes, rings, soles of sandals and other pieces. Some artifacts showed a gilded heterogeneous surface as well as alterations due to an inadequate method of extraction. In order to identify the artifacts production processes, the items were analyzed by X-ray fluorescence (XRF), Particle Induced X-rays emission (PIXE) and Rutherford Backscattering (RBS); few fragments were studied by Scanning Electron Microscope (LVSEM-EDS). Results indicated that the items were made of gilded copper using an foreing electrochemical deposition technique and these pieces were

exchanged with Central and South America.

Ruvalcaba Sil, José Luis [74] see *Melgar, Emiliano R.*

Ruzi, Eugen

[11] *Compositional Variability in the Albanian Neolithic, Copper and Bronze Age Pottery*
Due to the long political isolation, Albania was deprived from many new technologically advanced methods used in the archaeological research in other countries. Under the support of the archaeological program of CSULB, and the Albanian Archaeological Institute, I collected and analyzed pottery from sites with a wide spatial distribution, and a time-line from Neolithic to Bronze Age. By acquiring the chemical composition of these ceramics, we gain a better understanding of trade roots, cultural zones and ethnic affiliations. There will also be an attempt to date the ceramics using luminescence isochron dating, which will be extremely helpful for the Albanian archaeology.

Ryan, Karen

[294] *Variability in Hunter-Gatherer Architecture: socially significant or practically meaningless?*

Archaeologists often infer social behaviours from architecture, frequently viewing structures as emblems of a society's social environment. This viewpoint is especially common for sedentary societies, where researchers use elements of structural design to deduce group social constructs or worldview. But is this concept of architecture valid for the oft-times lower cost residential structures built by mobile foragers such as the Late Dorset (1500-500 B.P.), an arctic-adapted hunter-gatherer society? Is the high degree of dwelling variability typical of Dorset imbedded with myriad ideational meanings, or is ephemeral architecture by its nature less suitable for investigating social ideology and behaviour?

Ryan, Philippa [276] see *Russell, Nerissa*

Ryan, Susan (Crow Canyon Archaeological Center)

[46] *A Chronological Reconstruction of Occupation at Albert Porter Pueblo*

Excavations conducted at Albert Porter Pueblo—located in southwestern Colorado—at the Chaco-era great house and its surrounding community indicate this site was occupied discontinuously from A.D. 750 until the tenth-century, and occupied continuously from approximately A.D. 1060 until A.D. 1280, or regional depopulation. Unlike many other community centers in the region, the great house at Porter remained a focal point of the larger community for two centuries. This poster presents a reconstruction of the occupational history of Albert Porter Pueblo using tree-ring dates, architectural characteristics, stratigraphic sequences, and pottery assemblages gathered during four seasons of field work.

Rypkema, Heather [206] see *Galaty, Michael L.*

Ryzewski, Krysta (Brown University) [68] Chair

Ryzewski, Krysta [68] see *Deslatte, Kaitlin S.*

Sabloff, Jeremy (University of Pennsylvania) [56] Discussant

Sadilek, Oldrich (Archaeo Projects)

[293] *Teaching Archaeology in the 21st century provides an answer to a crowded curriculum*

The school educational system plays an important role in the training of new citizens. Archaeology, being relatively young discipline, is already an important component of a school curriculum in some schools in Victoria. Within the framework of subjects like history, geography and civics and citizenship, learning archaeological skills represent a significant social context in which students seek meaningful understanding of the past in their community. Analysis of the Victorian Essential Learning Standards (VELS) and its application to archaeology reveals that there are many opportunities for the inclusion of

Australian archaeology in Victorian schools. In this paper I will outline my program for engaging young minds in their studies about the past, including both indigenous and colonial periods.

Sadongei, Alyce [65] see Moreno, Teresa K.

Safi, Kristin (California State University Long Beach), Carl Lipo (California State University Long Beach), Chris Watkins (Arizona State University) and Hector Neff (California State University)

[11] *Luminescence dating of prehistoric Hohokam irrigation canals using IRSL and SAR analyses*

Prehistoric irrigation canals are difficult to accurately date using traditional methods of locating charcoal or diagnostic ceramics within the canal fill. As Berger and colleagues (2004) demonstrated, luminescence dating using infrared light stimulation of fine-grained feldspars and multiple single-aliquot measurements are capable of producing reliable dates for the filling episodes of canal sediments. We report the results of a project to generate ages for sediments from Hohokam canals collected from a site on the ASU campus. The results demonstrate the potential of luminescence dating for generating new knowledge about the history of prehistoric canals in the southwest.

Sakaguchi, Takashi

[133] *Late Prehistoric Settlement Choices in the Mid-Fraser Region on the Canadian Plateau*

This research utilized GIS environment-based site location, viewshed and least cost path analyses to explore how ecological and sociopolitical factors affected the location of prehistoric village sites. The environment-based site location analysis explains why the majority of villages are situated on their locations in terms of resource exploitation. However, this analysis has difficulty explaining why several village sites were located on mountainsides and high elevations. Viewshed analysis in association with least cost path analysis demonstrates that these locations were suitable for surveillance over paths and defense rather than optimal resource exploitation.

Sakai, Sachiko (UC Santa Barbara)

[11] *Explaining Change in Production and Distribution Pattern of Olivine Ceramics in the Arizona Strip and Adjacent Areas in the American Southwest*

In this poster, I will present a result of pilot study to examine production and distribution pattern of olivine ceramics, which are widely distributed in the Arizona Strip between A.D. 300 and 1300. I will investigate the source of olivine ceramics using INAA bulk analysis and Laser ICP-MS point analysis. I will also examine how this pattern changed over time, dating all sherds using Thermoluminescence Dating. Controlling time and space without ambiguous assumption, I expect this fine grained study will provide with amore accurate evolutionary account of change in production and distribution pattern of olivine ceramics.

Sakai, Sachiko [46] see Buck, Paul

Salazar, Lucy C. [274] see Turner, Bethany L.

Saldana, Melanie

[280] *Caves and the Association with the 'Land of the Dead': A Critical Rethinking*

Since the 1970's, archaeologists have proposed models of caves as leading to or being associated with the underworld and the land of the dead. The model is used to explain the meaning of caves or the presence of human skeletal material in caves. The strong resemblance of the model to the Greek idea of Hades suggests that such ideas need to be reexamined. This paper critically reviews ethnographic evidence for the association of caves with death and the disposal of the dead. Data suggest that a great deal more caution needs to be exercised in the application of such models.

Salgado Gonzalez, Silvia (Universidad de Costa Rica) and Eugenia Ibarra Rojas (Universidad de Costa Rica)

[59] *Relaciones históricas entre pueblos de Centroamérica y el Caribe entre los siglos XI y XVI*

Los límites de Mesoamérica y de la Región Chicha han cambiado con los criterios clasificatorios usados y con el conocimiento progresivo de los sistemas sociales de esas áreas. La dinámica y estructura de los sistemas sociales no puede interpretarse apropiadamente, sin la identificación e interpretación de las relaciones sociales concretas que los articulan y, que con frecuencia trascienden los límites de áreas culturales. Utilizamos análisis de casos de pueblos situados en el espacio de Centroamérica y el Caribe, para identificar relaciones interétnicas y para mostrar, lo que ha nuestro criterio, es el carácter poroso de las supuestas zonas de frontera.

Saltonstall, Patrick (Alutiiq Museum in Kodiak, Alaska) and Amy F. Steffian (Alutiiq Museum)

[194] *Moving Inland: The Evolution of Riverine Settlement in Alaska's Kodiak Archipelago* Over the 7,500-year course of Kodiak prehistory, settlement of the Islands' interior environments increased dramatically. The size, frequency, variety and permanence of sites flanking rivers and lakes far from the Gulf of Alaska coast all expanded as the human population grew and increased in social complexity. This paper models riverine settlement for the Kodiak region. It discusses the economic motivations for riverine settlement, considers how inland harvesting may have been part of the broader economic strategy of Kodiak societies through time, and then examines settlement data from recently surveyed stream systems to illustrate the evolution of riverine settlement.

Saltzman, Teresa Miller [71] see Gillette, Donna L.

Sampeck, Kathryn (The Stone Center for Latin American Studies) and William Fowler (Vanderbilt University)

[233] *Heritage, Community, and Landscape: Contrasts Between the Pipil Provinces of Cuscatlan and the Izalcos of El Salvador*

Different approaches to landscape use both reflected and created community integration in two Late Postclassic Pipil polities, the Izalcos in western El Salvador and Cuscatlan in central El Salvador. The Pipil of Cuscatlan may have arrived earlier and their centralized settlement organization indicates the emphasis of the Nahua institution of the tecalli and possibly an eastern Nahua heritage. The Izalcos probably arrived later and their dispersed settlement pattern suggests emphasis on the Nahua institution of the tecpan and possibly a western Nahua heritage. Landscape, history, and material expression all integrate the community and at the same time distinguish it.

Sampeck, Kathryn [233] see Earnest, Howard H.

Sampson, C. (Texas State University)

[101] *Seen but Not Herd: opportunistic pastoralists among the Seacow River Bushmen, South Africa.*

The Seacow River Bushmen were first encountered by Dutch treboers in central South Africa during the late AD 1700s. Although hunter-gatherers without livestock, they soon excelled in service as shepherds. Archaeological research shows they had a long history of erratic livestock ownership in preceding centuries. Direct dates on fiber temper in sherd's associated with low, drystone stock corrals show they first acquired livestock from Khoekhoe herders who had penetrated the Seacow valley in the AD 1400s. The subsequent archaeological record is one of complex interactions between the invaders, part-time Bushman pastoralists and full-time hunter-gatherers.

Samson, Alice (Faculty of Archaeology, Leiden University)

[196] *A good foundation: El Cabo, Late Ceramic Age households on the east coast of the Dominican Republic*

The site of El Cabo on the east coast of the Dominican Republic has a settlement history which spans 900 years from the early Osteoid until European contact. Excavation, which

has focused on the later period occupation area of the site, has revealed post-built structures and artefactual evidence from the living floors and sweeping accumulations. Pre- and contact period village life is materialized in a range of domestic, craft, exchange, ritual and mortuary activities, offering the opportunity to investigate a specific and situated history of becoming and being Taino.

Sanchez, Fernando [158] see *Frederick, Charles D.*

Sanchez, Guadalupe [185] see *Carpenter, John P.*

Sánchez, Víctor Vásquez [274] see *Bethard, Jonathan D.*

Sanchez Miranda, Guadalupe (INAH Subdirección de Laboratorios y Apoyo Académico), Edmund Gains (University of Arizona), John Carpenter (INAH) and Vance Holliday (University of Arizona)

[32] *Investigations at El Fin del Mundo Site, Sonora*

In February 2007 we found a mammoth kill Clovis site located in northern Sonora. Here, we documented at least three mammoths, one horse, one complete Clovis point and a dozen of other artifacts. The geoarchaeological investigations at the site are extremely significant with regard to our knowledge of the late Pleistocene/early Holocene occupation of Mexico. The Fin del Mundo site is only the second mammoth kill site found within Mexico as well as the first buried site that we have discovered in Sonora; we harbor great expectations with respect to recovering a precise geochronological, paleoenvironmental and archaeological record of late Pleistocene/early Holocene contexts.

[236] *Discussant*

Sanchez-Hernandez, Ricardo [74] see *Robles-Camacho, Jasinto*

Sanchez-Miranda, Gaudalupe [32] see *Gaines, Edmund P.*

Sánchez-Palencia, Francisco Javier [153] see *Sastre, Inés*

Sanders, Adrian (University of Victoria)

[81] *Testing the Utility of LiDAR Remote Sensing and GIS Technologies in Archaeology: Lessons from the Field on Bridging Novel Search Methods and Phenomenology*

Archaeological search strategies have varied widely depending on the context of investigation. Increasingly, technological capabilities in remote sensing and GIS have contributed to the reliance by archaeologists on computers to help distinguish areas of "high potential". This paper discusses the role of archaeologists in contemporary research incorporating such tools as LiDAR and GIS. Based on 2007 field research using these technologies to help select archaeological test locations within the NE Graham Island landscape, the author argues that archaeologist's logically perform the role of mediators negotiating between pre-field deductive computer-generated information and 'in-the-field' sense perception using inductive reason derived through observations.

Sanders, Adrian [52] see *Ritchie, Patrick M.*

Sandgathe, Dennis [94] see *Schwartz, Steve*

Sandweiss, Daniel (University of Maine)

[231] *Quebrada Jaguay: An Early Fishing Site in Southern Peru*

This talk reviews the history of study, stratigraphy, chronology, and architecture at Quebrada Jaguay, an early fishing site located on the bank of an ephemeral stream in southern Peru. Excavated in 1996 and 1999, 41 radiocarbon dates range from 7500 to 11, 340 14C BP (ca. 8250-13,400 cal BP) and fall stratigraphically into three components: Terminal Pleistocene, Early Holocene I and Early Holocene II. Postholes and posts from the TP component indicate multiple reconstructions of a dwelling of apparently rectangular plan; EHII had a small, circular, semisubterranean house. Artifactual, architectural, and organic data suggest the site was a base camp.

[231] *Chair*, [231] see Reid, David A.

Sanford, Camille [260] see Young, Patricia Bernice

Sanger, David (University of Maine), Benjamin Tanner (Western Carolina University) and Martin G. Yates (University of Maine)

[231] *Lithic Analysis of Chipped Stone Artifacts Recovered from Quebrada Jaguay, Peru*
This research focuses on the analysis of stone tools and debitage recovered from Quebrada Jaguay. The lithic remains recovered from the site provide information about the technology of the site's inhabitants and afford comparisons with other contemporary sites. These lithic materials suggest answers to questions dealing with lithic procurement and production strategies and questions about relationships with other groups along the coast of Peru. A systematic survey of several potential quarry sites offers useful information about source locations and complements the lithic analysis. Methods used in the analysis provide a framework for future researchers in the area to use.

Sanger, Matthew (American Museum of Natural History)

[113] *Renew, Reuse, Recycle – the functional trajectory of the Late Archaic landscape on St. Catherines Island*

Late Archaic shell rings are monumental sites that mark the landscape South Carolina, Georgia, and Florida. Function of shell rings varies through time - they appear to originally be used as residential centers, then shift towards ceremonial usage early in their depositional history. Even after being residentially abandoned, shell rings show signs of being reclaimed/reused. Other Late Archaic period sites appear to be purposefully selected as locales for Woodland period burials. The changing usage of Late Archaic sites is the focus of this paper. New information from the ongoing excavations at the St. Catherines Island Shell Ring will be presented.

Sanger, Matthew [173] see Thomas, David Hurst

Santa Rosa Rancheria, Tachi Yokut Tribe Cultural Comm [7] see Madden, Gwyn D.

Santos Estevez, Manuel (Institut for Galician Studies (CSIC-Xuga))

[153] *Atlantic Rock Art and Social Transformation*

Atlantic Rock Art has four phases: Neolithic, Bronze Age, Early and Late Iron Age, with interesting iconographic changes along them, affecting the structure of the panel: in earlier periods the compositions could be observed from many points of view, while in the latest periods there is only one; also, in Bronze and Iron Ages there are no domestic scenes, only warriors are represented. These changes coincide with the substitution of the Neolithic collective burials by individual burials in Bronze Age, and progressive increase in the complexity of the settlements. Rock art worked as a symbolic device to legitimate these transformations.

Sappington, Robert (University of Idaho)

[225] *Variations in Occupation at Two Late Archaic Cave Sites in Southeastern Idaho*
Raptor and Roadside caves are multi-entrance lava tubes that were severely damaged by looting. In order to assess these sites and protect their remaining deposits, both caves were tested and excavation revealed lithic tools, ceramic sherds, bone tools, and other items. Roadside Cave has 24 multicolored pictograph panels. Faunal remains and protein residue indicate use of multiple resources including bison, rabbit, and sage grouse. Six radiocarbon dates ranged from 3000 to 400 years BP. These sites were used by late Archaic groups for hunting, processing, tool manufacture, shelter, storage, and other tasks that were concentrated around the natural openings.

Sappington, Robert [105] see Norman, Jared M.

Sarjoughian, Hessam [137] see Ullah, Isaac I.

Sasaki, Yuka [188] see Noshiro, Shuichi

Sassaman, Kenneth (Univ of FL - Anthropology)

[19] *Eastern Archaic Prehistory "as if" History*

Hunter-gatherer prehistories of Eastern North America have been written as if they were evolution, as if they were ecology. How would these prehistories read as if they were history? Constrained by "as if" philosophy, historical narratives of ancient human experience are no less hypothetical than alternative paradigms, but they implicate scales of analysis and comparisons far different than the methods used to investigate hunter-gatherers as evolution or ecology. Vignettes of Eastern Archaic prehistory illustrate how the methods of historical processualism implicate testable hypotheses about material culture and ritual practice "as if" ancient hunter-gatherers were agents of modernity.

[19] *Co-Organizer [19] Chair*

Sastre, Inés (Consejo Superior de Investigaciones Científicas) and Francisco Javier Sánchez-Palencia (Consejo Superior de Investigaciones Científicas)

[153] *Non-hierarchical approaches to the Iron Age societies: the case of the Castro Culture of Northwestern Iberian Peninsula*

Recent archaeological developments in the northwest of the Iberian Peninsula have spawned an interesting theoretical debate on the appearance of hierarchical social relations, taken as a given for the Iron Age. This discussion lies within the changing European panorama, and the definition of "non-triangular societies". Here we present those characteristics which, through the archaeological record, allow for the definition of the Castro Culture as "segmentary societies". We will witness the formation process of independent and self-sufficient communities in constant conflict, and their later disappearance into the Roman Empire, when a State and social classes become present in this European region.

Sato, Etsuo (Toyama University of International Studies), Hirokazu Kotegawa (Universidad Nacional Autónoma de Mexico), Janet Montoya (Arizona State University) and Saburo Sugiyama (Aichi Prefectural University)

[180] *Refining the Patlachique Phase: Ceramics, Figurines, and Architecture at the Earliest Monument Found in the Moon Pyramid.*

Intensive tunnel excavations in 1998-2004 uncovered seven overlapping architectural stages at the Moon Pyramid, Teotihuacan. The earliest, Building 1, contained abundant Patlachique-phase ceramics and figurines. Although we know that Teotihuacan rapidly developed into a large urban center during the Patlachique and Tzacualli phases, its formation processes have remained obscure because of the lack of sufficient data from these enigmatic early phases. We describe the ceramics, figurines, and architectural features of Building 1, and discuss their broader social significance to the city and the Valley of Mexico during the Late Formative period.

Saunders, Shelley (McMaster University) and Anne Katzenberg (University of Calgary)

[291] *Bioarchaeology in Canada*

Many might think that Canada and the United States have a common scientific heritage but bioarchaeology in Canada is uniquely different for both historical and political reasons. Scholars trained in Great Britain carried out some of the earliest studies of archaeologically retrieved human remains and later, osteological research proliferated in departments of anatomy. Osteological study in Canada has always emphasized morphological variation and development, largely owing to the influence of James E. Anderson. Further Canadian 'distinctions' include a lack of emphasis on race and very different approaches to native issues.

Savelle, James (McGill University) and Arthur Dyke (Geological Survey of Canada)

[17] *Thule Culture Settlement History on Somerset Island and Boothia Peninsula*

A number of Thule Culture sites on Somerset Island and Boothia Peninsula were visited during the 2007 field season in order to obtain appropriate material for AMS dating. In addition, materials obtained from several previously excavated Thule Culture sites in these and adjacent areas were also submitted for AMS dating. The resulting suite of new dates,

together with other appropriate data, allow for a preliminary interpretation of the initial entry, spread and establishment, and eventual demise of Thule Culture in this region.

Sayre, Matthew (UC Berkeley)

[179] *Sacred Plants at Chavin de Huantar*

The importance of hallucinogenic plants at Chavin de Huantar has long been assumed due to their prominent space in the iconographic record. This paper attempts to present physical evidence for and against their relative use during Andean Formative times. The macrobotanical and microscopic evidence will be examined in order to discern whether or not there is material data to support previous claims about the nature of shamanic practice during Chavin times.

Scanlan, Brian, Lauren M. Willis (Southern Methodist University) and Metin

I. Eren (University of Exeter, Southern Methodist University)

[174] *"Psssst... Guess What I Heard...." Some Thoughts On Archaeological Research Rumors*

What is the difference between an untested hypothesis, a paradigm, and a rumor? How do research rumors become entrenched into the field as fact? Are rumors actually harmful to the field, or can they be helpful for research? This lighthearted poster examines a number of "archaeological rumors" from numerous time periods and material culture mediums, and looks for common trends among them in the hopes of understanding how rumors get proposed, spread, and eventually presented as fact.

Scaramelli, Franz (Centro de Antropología, Instituto Venezolano de Investigaciones Científicas) and Kay Tarble de Scaramelli (Escuela de Antropología, Universidad Central de Venezuela)

[291] *Archaeology, bioethics and policies for the treatment of human remains in Venezuela*
Regardless of the recent boom in physical anthropology at Venezuelan universities, the study and display of archaeological human remains is disappointing from the point of view of present-day standards on bioethics and human rights. This paper focuses primarily on issues of cultural heritage and bioethics and offers different examples of the policies concerning the study/custody of human remains in Venezuela. The cases under examination are intimately intertwined in the context of past and present attitudes toward human vestiges, especially in light of the increased voice of indigenous peoples and other ethnic groups guaranteed by the new Constitution.

Scarborough, Vernon (University of Cincinnati) [158] *Discussant***Scarlett, Timothy (Michigan Tech University), Bode Morin (Michigan Technological University), Patrick Martin (Michigan Technological University) and Susan Martin (Michigan Technological University)**

[30] *The Industrial Landscapes of the Upper Peninsula of Michigan: The Archaeology of Extractive Industry in a Globalizing World*

Michigan Technological University's archaeologists study the extractive industries of Michigan's Upper Peninsula; particularly logging, copper, and iron mining. Our research perspectives assume the interconnectedness of extractive industries with their local landscape, but also with other centers of industrial development around the world. Landscape is a useful metaphor to describe the other 'flowscape' of globalization: those including population streams, the transfer of technological systems, legal systems of ownership and partnership, and information flow. Examples from a range of industrial sites demonstrate the connections visible in the flowscapes, and counter the notion of the Upper Peninsula as an isolated landscape.

Scarry, C. Margaret [148] see Newsom, Lee A.**Schaaf, Jeanne (Katmai National Park and Preserve)**

[194] *A 7000-Year Record of Human Response to Environmental Instability from the Mink Island Site, Alaska Peninsula*

Excavations at the Mink Island Site, located on the Pacific coast of the Alaska Peninsula, in

Katmai National Park and Preserve, revealed superb preservation of several nested occupation floors dating between 7500 and 4000 years BP. These lower midden deposits are separated by a meter of aeolian sand from a younger midden and settlement (2000-500 years BP) abandoned near the beginning of the Little Ice Age. The well-preserved vertebrate and invertebrate assemblages provide an unparalleled proxy record of the environmental history of the area. A detailed description of the stratigraphic and chronological context for the faunal assemblages is presented.

Schaaf, Jeanne [230] see Murray, Maribeth S

Schaafsma, Curtis and Edward Jolie (University of New Mexico)

[225] *Ritual Cave Use in the Acoma Province: Insights from the Grants Basket Site (LA 47818)*

In 1976 a cache of five coiled baskets and several other perishable artifacts was recovered by non-professionals from a cave north of Grants, New Mexico. Because of the baskets' incredible preservation and elaborate decoration, the site was located and recorded as LA 47818. Recent detailed analyses of the artifacts and two new AMS determinations shed light on the age and probable cultural affiliation of the cache. The nested assemblage contained a bifurcate ear of corn in the innermost basket jar, which ethnography suggests may be the reason for this spectacular cache.

Schaafsma, Polly

[225] *The Cave in the Kiva: The Niche and Painted Walls in the Rio Grande Valley*
Pueblo IV Rio Grande kivas frequently have wall niches symbolizing the sipapu, place of emergence, access to the watery Underworld and home of the rainmakers. The landscape equivalent is the cave. At Kuaua and Pottery Mound these niches are often organizing principles for west wall murals. In addition they may be the focus of meteorological motifs. This paper examines this iconography as a means of furthering understanding Pueblo cosmology and landscape symbolism from the late 1300s through the early 1600s among the Eastern Pueblos.

[112] see Coltman, Jeremy D.

Schachner, Gregson (UCLA)

[228] *The Changing Geography of Pueblo IV Period Ritual in the Cibola Region*

When people living in the Cibola area began to reside in large pueblos during the A.D. 1200s, they radically transformed regional settlement patterns. The resulting contraction of residential areas must have been accompanied by changes in the ceremonial landscape. Numerous places that had been ritually important were suddenly distant from population centers. This paper explores the changing geography of networks connecting pueblos and ritually important places during the thirteenth through fifteenth centuries. Changes in landscape use during this period may have given rise to some of the ritual pilgrimages engaged in by later Pueblo peoples.

Schaefer, Michael [30] see Skibo, James M.

Schaepe, Dave [18] see McHalsie, Albert J.; [52] see Formosa, Susan B.

Schaepe, David (Sto:lo Nation)

[52] *Quantifying Changes in Housepit Features and Social Organization among the Pre-Colonial Sto:lo of the Lower Fraser River Watershed*

Analysis of the physical attributes of housepit features and settlements can provide insight into social organization of the occupant households and communities. This poster presents new data quantifying changes in the size and shape of 114 housepit features occupied in the Lower Fraser River Watershed between 150-2,270 BP. These data highlight a period of significant change among these ancestral Sto:lo communities approximately 500 years ago, characterized by a diversification in housepit size and form. These changes suggest a florescence in social order and class distinction representing the emergence of a complex social structure previously unrecognized among the pre-Colonial Sto:lo.

[52] Co-Organizer

Schaepe, David [52] see *Supernant, Kisha; [52] see Lepofsky, Dana; [52] see McHalsie, Edith; [52] see Graesch, Anthony P.*

Schaffer, William (University of Arkansas), Jane Day (Research Atlantica, Inc.) and Robert Carr (Archaeological and Historical Conservancy, Inc.)

[63] *Prehistoric Use of Preacher's Cave, Eleuthera, The Bahamas*

Four field sessions of archaeological inquiry at Preacher's Cave have uncovered an extensive assemblage of prehistoric artifacts and well-preserved human remains. The skeletal remains of at least seven Lucayan individuals and associated grave goods were documented. Analysis pertaining to paleopathology, skeletal biology, and nonmetric variation and their impact on diet and overall health is discussed. Radiocarbon dates suggest use of the cave as early as AD 700 through the contact period. Botanical samples from the cave provide the first macro evidence of maize cultivation in the Bahama archipelago.

Schalk, Randall (Cascadia Archaeology)

[306] *Terrestrial Perspectives on Early Postglacial Human Adaptations on the Northwest Coast*

Late Pleistocene subsistence systems of the Northwest Coast have been widely hypothesized to have been heavily marine oriented. A lack of empirical support for this maritime model is attributed to rising sea levels and the resultant loss of the archaeological record. This paper considers an alternative model in which early colonists of the newly deglaciated landscape would have encountered abundant, high-value ungulate resources in a terrestrial ecosystem more productive for hunter-gatherers than it would ever be again during the Holocene. Paleontological and archaeological evidence supporting a terrestrial hunting ecological niche is reviewed.

Schalk, Randall [230] see Trost, Teresa

Scharf, Elizabeth (University of North Dakota)

[93] *Aiding archaeology with environmental data – searching for a useful late Holocene record for the Florida panhandle*

This poster will present preliminary sediment work on a lake core from Santa Rosa county in the panhandle of Florida, to evaluate the usefulness of these records in reconstructing an ecological history for the area over the past 500 to 1,000 years. Palynology at this locale could give us a vegetation reconstruction that would provide a better context for understanding the archaeological record in this area, and for determining if local peoples had a palpable effect on the surrounding landscape.

Scheel-Ybert, Rita (Museu Nacional), Gina Faraco Bianchini (Museu Nacional, UFRJ) and Maria Dulce Gaspar (Museu Nacional, UFRJ)

[139] *Palaeoenvironment and palaeoethnobotany in Southern and Southeastern Brazilian shellmounds*

Sedentary shellmound builders with a relatively complex sociocultural organization colonized the Brazilian coast during the Holocene. Anthracological and palaeoethnobotanical analysis of several sites demonstrated that these people inhabited the "restinga" ecosystem (characteristic of the Brazilian sandy coast), usually in the vicinity of mangroves and forest formations. Domestic firewood was obtained by deadwood gathering on a non-selective basis. Human management of tuber-producing and tree fruit plants was suggested, on the basis of archaeobotanical and ethnobotanical data. Charcoal spectra are relatively constant. Landscape stability, having important outcomes to prehistorical populations, was probably a decisive factor for this culture expansion along the coast.

Scheiber, Laura (Indiana University) and Judson Finley (Washington State University)

[19] *Mobility as Resistance: Studying Colonialism among Nomadic Hunter-Gatherers in the American West*

In this paper, we discuss material and social effects of colonialism among mobile hunter-

gatherers living in the western Plains and Rocky Mountain, highlighting recent research in the Greater Yellowstone Ecosystem. Archaeologists increasingly contribute to scholarship on the worldwide impact of European expansion. However, studies of colonial impacts on mobile hunter-gatherer societies are rare. Because hunter-gatherers typically avoid and resolve conflict by moving, the effects of contact on nomadic people are difficult to trace. We explore material signatures of pre and postcontact mobile hunter-gatherers, emphasizing wilderness land use strategies, resource intensification, and technological organization on the western North American frontier.

Scheinsohn, Vivian (INAPL)

[270] *Landscape Information among Hunter-Gatherers in Northwest Patagonia: Corridors, Rock art and Archaeology*

In Cordilleran Northwest Patagonia a Landscape Ecology approach was developed in order to construct a spatial model for archaeological distributions (Scheinsohn and Matteucci 2004 a & b). As a result it was clear that most archaeological signals in the area consisted in rock art sites located along corridors. Possibly, rock art sites were used as landmarks for aid in environmental legibility (Golledge 2003). In order to determine how this information was transmitted, NW Patagonia sites will be analysed by means of cladistics and endemism analysis (Scheinsohn and Szumik in press).

Schenker, Hillori (Legacy Resource Management Program, DoD)

[108] *Funding Opportunities and Success Stories: The Department of Defense Legacy Resource Management Program*

The Legacy Resources Management Program is a funding and partnership opportunity from the Department of Defense. In 2007, the Legacy Program funded 74 projects and formed multiple partnerships with several federal agencies, states, universities, non-profit organizations, and private industries. Legacy Projects focus on natural and cultural resource management at military installations. Legacy is a competitive funding process with areas of emphasis on cultural resource management; curation of archaeological collections and associated records; Native American issues; and others. Listen in on this paper for information about the Legacy Program's successful projects and funding opportunities.

Schepartz, Lynne (Florida State University) and Joanne Murphy (University of Akron)

[85] *Looting and Mortuary Behavior at Pylos: Bioarchaeology of Mycenaean Tombs at the Palace of Nestor*

'Disturbed' tombs are usually assumed to have been looted for their valuables while their other contents were ignored or scattered. Several other behaviors, including secondary burial and tomb reuse, can produce similar archaeological signatures. To test if 'looted' tombs differ in systematic ways from non-disturbed interments, we compared tholos and chamber tombs associated with the Bronze Age Palace of Nestor at Pylos for evidence of tomb re-opening, spatial patterning of contents, taphonomic condition and representation of bone, and tomb contents. The variation in the Pylos tombs suggests that mortuary behaviors were complex and contributed to the disturbance of most burials.

Schepartz, Lynne [75] see Miller-Antonio, Sari

Scherer, Andrew [131] see Murphy, Melissa S.

Schick, Kathy [29] see Toth, Nicholas P.

Schieppati, Frank [71] see Hayward, Michele H.; [281] see Smith, Donald

Schilling, Timothy (Washington University in St. Louis), John Kelly (Washington University in St. Louis) and T.R. Kidder (Washington University in St. Louis)

[129] *Envisioning Monk's Mound: Results of the 2007 Stabilization and Restoration Project* Monk's Mound is the center piece of the early Mississippian landscape at Cahokia. The mound, the largest pre-Columbian construction in North America, was a focal point for the early Mississippian society in the American Bottom. Consequently, the monument figures prominently in many interpretations of the political and social processes that led to its

construction and use. Recent work to repair slope failures on the Northwestern and Eastern sides of the mound provides an unprecedented opportunity to investigate mound construction history and chronology.

Schilling, Timothy [204] see *Hildebrand, Elisabeth*

Schindler, Bill (Monmouth University) [24] *Chair*

Schindler, Bill [24] see *Messner, Timothy; [24] see Sidoroff, Maria-Louise*

Schlanger, Sarah (NM Bureau of Land Management), Dave Simons (Bureau of Land Management), George MacDonell (Bureau of Land Management), Signa Larralde (Bureau of Land Management) and Stephen Fosberg (Bureau of Land Management) [125] *Less is More: Making Better Management Calls in Southeast New Mexico's Permian Basin*

The Bureau of Land Management has been coping with development in New Mexico's Permian Basin with a "survey, flag and avoid" strategy designed to spare sites from energy field impacts. These industry-driven surveys can, and have, yielded representative samples of the environmental diversity and surface archaeology in the region. Today's patchwork of seismic line, well pad, and transportation surveys are identifying most sites (some many times), and capturing nearly all of the surface site diversity. The BLM plans to trade off additional, redundant survey for intensive site investigations that will improve our ability to manage the Permian Basin's cultural resources.

Schlenker, Amy (SWCA Environmental Consultants), Omar Ramirez (SWCA-Portland) and Stephanie Butler (SWCA- Portland) [122] *Using Sensitivity Analysis for Large-Scale Cultural Resource Projects in the Pacific Northwest*

This poster will present the results of a sensitivity model for anticipating cultural resources in the Pacific Northwest. The sensitivity model uses environmental variables, such as soils and slope, in combination with known site location data to develop high, medium, and low probability zones. The model allowed a large project area to be rated for its probability to contain intact subsurface cultural deposits. Issues addressed will include accuracy of the compiled sensitivity model, data interpretation, and database resources, and field survey application.

Schmader, Matthew [114] *Nailing Down Coronado: Comparisons of 16th Century Spanish Expeditionary Artifacts, Events, and Locations*

Recent artifactual discoveries directly related to the 1540-1542 Vasquez de Coronado exploration have spurred renewed interest in identifying pueblos visited by the expedition. Piedras Marcadas Pueblo is a large European contact-period village in the middle Rio Grande valley near Albuquerque, New Mexico. Geophysical investigations such as electrical resistivity have identified several hundred rooms at the site. Metal detection has resulted in recovering crossbow boltheads, caret-headed nails, buckshot, chainmail, and other nonferrous items diagnostic of Coronado's expedition. These finds are presented and compared to other assemblages from the period in an attempt to verify locations visited by Coronado.

Schmich, Steven (Arizona State University) [303] *A Case for Including the Pleistocene-Holocene Transition in Discussions of Local Subsistence Adaptation to Global Climate Change*

Humankind has previously faced global climate change, and we have an archaeological record covering the complete trajectory of our responses. However, as international policy-makers now consider adaptation strategies, even the U.N. framework for at-risk economies of the developing world treats climate change as unprecedented. During the Pleistocene-Holocene transition, local subsistence groups adapted to sea level changes of more than 100 meters, shifts in weather and rainfall patterns, and transformations of floral and faunal ecologies — effects strikingly similar to those noted by the Kyoto Protocol. Understanding

these past processes can help frame our thinking and focus our planning efforts.

Schmich, Steven [153] see *Miller, Alexandra E.*

Schmidt, Armin (University of Bradford) and Robin Coningham (Durham University)

[54] *South Asian World Heritage Under Threat: from Buddhist temples to Islamic mosques*
Geophysical surveys play an important role in Cultural Resource Management. They can be used to locate buried structures, help monitor the in situ preservation of such remains and provide research information. All of these functions are also important when dealing with World Heritage Sites which is demonstrated for three sites in South Asia: Lumbini, the birthplace of Buddha, Paharpur, the largest Buddhist monastery on the sub-continent and Bagerhat, an ensemble of Islamic brick architecture. All of these sites are currently under threat and the paper will explore the contribution archaeological geophysics can make for the management of such heritage monuments.

Schmidt, Beverly (University of Pennsylvania), Deborah I. Olszewski (University of Pennsylvania) and Utsav A. Schurmans (University of Pennsylvania)

[269] *A re-examination of the Iberomaurusian from Smuggler's Cave, Morocco*

The Iberomaurusian is a Northwest African lithic industry characterized by the presence of among other tools, backed microliths. Although there is a lengthy history of research on the Iberomaurusian, many studies of the lithic assemblages are outdated. In light of renewed excavations at Smuggler's Cave, the authors re-examined the site's Iberomaurusian materials recovered by J. Roche in the 1950's and published in 1963. Significant differences with the earlier characterization of the material were noted, particularly the frequencies of nongeometric microliths and pieces esquilles. The paper examines the implications of these differences for our understanding of the Iberomaurusian.

Schmidt, Morgan

[208] *Amerindian Anthrosols: the Formation of Enriched Soils in the Upper Xingu Basin, Amazonia*

Scattered patches of fertile black soil known as Indian black earth are highly sought after for growing crops. These anthrosols resulting from ancient human activities are associated with archaeological sites. This research tests groups of soil samples collected from various contexts within contemporary Amerindian villages and compares them with samples collected from nearby archaeological sites. Soil pH and organic carbon were measured and a total extraction used to measure 22 elements with ICP OES. Results show that the activities produce greatly differing degrees of soil modification and that discriminant analysis is capable of classifying samples from specific activity areas.

Schmidt, Peter (University of Florida)

[40] *Archaeology in Eritrea: A Victim of Colonial and Anti-Colonial Legacies*

A postcolonial analysis of archaeology in Eritrea starts with the development of a national identity deeply influenced by fascist Italian colonialism, when Eritrean identity first arose out of Italian representations that privileged Eritreans over "primitive" Ethiopians. This ethos gave birth to the liberation struggle's control over knowledge production and valorization of a military chain of command mentality. These attributes are amplified by a deep suspicion of outsiders, increasing centrism, and the flowering of anti-intellectual forces that include the systematic degradation of heritage resources and the dismemberment of higher education, failures of Eritrea to grow beyond colonial and anti-colonial identities.

[40] *Chair*

Schmidt Dias, Adriana

[31] *Hunter-Gatherer Mobility and Territoriality in South Brazil*

The archaeological researches conducted at Caí River and Sinos River valleys indicate that the initial hunter-gatherer settlement in northeast border of south Brazilian highlands (Rio Grande do Sul State) at 9.500 years BP followed the process of expansion of subtropical forests, maintaining similar cultural patterns until 400 years ago. These long-term adaptative strategies are represented by regularity in the settlement systems and homogeneity in technological organization, indicating models of social organization

characterized by high social interaction and residential mobility in a large regional territory.
[236] *Discussant*

Schmitt, Victoria (New York State Museum) and J. Scott Cardinal (New York State Museum)

[8] *From Farmhouse to Bunkhouse: The Andrew Shelters Log House and Site*

Located along the Military Turnpike in northern New York, the Andrew Shelters Log House is a relatively unmodified early home. Built in the first half of the nineteenth century and relocated a short distance to its present site in the 1920s, the house is a unique structure constructed of hand-hewn logs still exhibiting the marks made by the tools used to cut and shape the log beams. Archaeological evidence, historic documentation, and local information are combined to provide a glimpse into the history of this rare cultural resource from the early period of settlement in the region.

Schneider, Joan (University of California, Riverside) and Claude Warren (UNLV)

[80] *Reviewing the Archaic-Late Prehistoric Interface in the Mojave Desert and the Southern Great Basin*

This paper will synthesize what is understood about the period of time immediately preceding the Late Prehistoric Period in the Mojave Desert. We will draw on previous regional syntheses, the unpublished literature, and add new data from the northern slopes of the San Bernardino Mountains. The mountains are a topographical divide between the Low Deserts (Colorado and Sonoran) and the High Deserts (Mojave and Great Basin; this may have cultural implications.

Schneider, Kent [54] see Goodman, Dean

Schneider, Seth A. [26] see Richards, John D.

Schneider, Thomas (University of British Columbia - Department of CNERS)

[268] *Hybridization in Ancient Egypt: the Case of the Goddess Qudshu*

The paper focusses on an intriguing case of hybridization in the religion of Ancient Egypt, the goddess Qudshu whose depictions, functions and names/epithets represent a merger of Egyptian and Ancient Near Eastern motifs. It reflects on the conditions and purposes of this new religious entity and places the phenomenon within the wider context of cultural contact and change in the Egyptian New Kingdom (1530-1070 BCE).

Schnurr, Peter [275] see Easton, Norman A.

Schober, Theresa [148] see Torrence, Corbett McP

Schoeninger, Margaret (Univ of California-San Diego) [274] *Discussant*

Schoeninger, Margaret J. [274] see Kellner, Corina M.

Schofield, John [174] see Myers, Adrian T.

Scholl, Nathan and C. Russell Stafford (Indiana State University)

[50] *Modeling Paleolandscapes in the Lower Ohio River Valley: Late Wisconsin and Early Holocene Landforms in Knob Creek Bottom*

This study examines a paleolandscape model that focuses on alluvial landforms that date to the Late Pleistocene and Early Holocene in Knob Creek bottom of the lower Ohio River valley. The study tests and refines a landscape model based on geoarchaeological data from the Caesars Archaeological Project. Analysis centers on the relationship between late Wisconsin and early Holocene Landform Sediment Assemblages (LSA), including early paleochannels. A more complete picture of the landscape evolution of the lower Ohio River valley results that more accurately predicts the location of archaeological remains on or buried in these alluvial landforms.

Schollmeyer, Karen (Arizona State University)

[46] *Agriculture, Settlement Patterns, and the Eastern Mimbres in the 12th Century*
Explanations for settlement dispersal out of large villages in the Mimbres region in southwest New Mexico at A.D. 1130 have traditionally considered resource stress an important contributing factor. I use GIS and mathematical modeling to examine changes in agricultural productive potential before and after the settlement shift, and assess the roles of access to productive agricultural land and perceptions of food stress in human decisions about land use in the eastern Mimbres area.

Scholnick, Jonathan (University of Arizona)

[261] *Cultural diffusion in apprenticeship networks of New England gravestone carvers*
Learning strategies of historic New England gravestone carvers are studied by comparing decorative content with social networks. Information can spread along social networks vertically from teachers within a workshop or horizontally from peers. Yet, little is known about the relative importance of these relationships in the spread of innovations. Social networks are traced through documented apprenticeships between gravestone carvers. Measures of stylistic difference between attributed gravestones are used to evaluate the role of apprenticeship in the spread of innovations.

[261] *Co-Organizer*

Schone, Bernd

[243] *Summer Air Temperature Reconstructions Over 1743-1993 AD Based on Freshwater Pearl Mussels from Midden Deposits of Northern Europe*
Margaritifera margaritifera can grow for ca. 300 years. Its shell growth patterns function as reliable monitors of summer temperatures. Annual increment width chronologies of many specimens can be combined into long time-series (master chronologies) that stretch over multiple centuries and many generations of bivalves. Here, subfossil shell material was obtained from shell middens and sedimentary deposits along rivers in Finland. The master chronology enabled extension of the existing sclerochronology from Northern Europe back to 1743 AD. This study demonstrates that midden shells can be used to reconstruct long-term changes in terrestrial climate, thereby verifying and complementing climatologies inferred from trees.

Schou, C. [313] see Lohse, Skip

Schoville, Benjamin (School of Human Evolution and Social Change Arizona State University) and Erik Otarola-Castillo (Iowa State University)

[95] *A Geometric Morphometric Analysis of Convergent Points from Middle Stone Age Deposits in Cave 13B Mossel Bay, South Africa*
Stone tools reflect intentional human behavior and frequently are the dominant artifact type found in Middle Stone Age deposits. However, capturing the full variation in assemblage scale lithic tool form is difficult with traditional metrics. In contrast, geometric morphometrics generates shape variables based on a specimen's overall morphology allowing the morphological variability within an assemblage to be statistically evaluated. Applying this method to the convergent points from cave 13B (n=312) indicates variation in overall tool form during the MSA of interest to studies of modern human technological variability.

[95] *Co-Organizer*

Schoville, Benjamin [95] see Byerly, Ryan

Schrag, Amber (Wichita State University), Keith Prufer (University of New Mexico) and Willa Trask (Wichita State University)

[197] *In the Shadows of the Big Houses: Non-Elite Settlements at Uxbenká*
Households inform us about social relationships in ways that public-centered research might exclude. Studies of non-elite settlements are also an excellent way to bring attention to the rich diversity that characterized pre-Columbian society. Uxbenka's settlement system is characteristic of Maya sites, and includes residences, ancillary structures, modified landscape features surrounding the household, and related gardens and agricultural areas. Excavations were conducted in 2007 to assess the temporal occupation and functional use

of space at one non-elite residential group at the site. The data collected are compared with other household excavations conducted at Uxbenká and with other sites in southern Belize.

Schreg, Rainer [215] see Fisher, Lynn E.

Schreiber, Katharina (University of California - Santa Barbara) [98] Discussant

Schroeder, Kari (UC Davis, Department of Anthropology), David Glenn Smith (Dept. of Anthropology, University of California, Davis), Mattias Jakobsson (Dept. of Human Genetics, University of Michigan), Noah Rosenberg (Dept. of Human Genetics, University of Michigan) and Theodore Schurr (Dept. of Anthropology, University of Pennsylvania)

[223] Genomic Background of a Native American Private Allele: Support for the Beringian Incubation Model

The distribution of the 9RA at genetic marker D9S1120 supports the hypothesis that all modern Americans descend from a Beringian population. This inference assumes that copies of the 9RA are identical by descent and that the allele is not under selection. We studied the genomic region around D9S1120 in 44 populations from the Americas and Asia. 90% of chromosomes with the 9RA have the same haplotype, suggesting most or all copies descend from a single mutation. The length and frequency of the 9RA haplotype do not suggest its distribution results from positive selection. Recombination within the haplotype allows us to date the 9RA.

Schubert, John (Northern Arizona University)

[317] Landscape of Places: A Spatial Perspective on Communication and Subsistence in Cohonina Community Settlement

This paper investigates the spatial relationships between subsistence resources and communication networks of a prehistoric population known as the Cohonina through large-scale regional settlement analysis of archaeological survey data from Northern Arizona. Cohonina community level spatial organization and current environmental data serve as the basic units of analysis to determine the extent that Cohonina subsistence strategies and communication systems affected Cohonina settlement decisions. Site locations are analyzed in relation to environmental variables and compared with the potential to operationalize visual communication. The goal of this project is to investigate both social and environmental factors involved in Cohonina settlement placement.

[317] Co-Organizer

Schuldenrein, Joseph (Geoarcheology Research Assoc), Curtis Larsen (Geoarcheology Research Associates) and Rita Wright (New York University)

[224] From Harappa to the Hudson: Archaeo-climatic modeling in global context

Reid Bryson's macrophysical climate paradigm is an inductive model that accommodates local climatic factors for paleoclimatic reconstructions. It is structured on inputs from circulation and weather related measurements. The paradigm's merits stem from its independence of proxy indicators, the typical data sets utilized by inter-disciplinary archaeological scientists. This study cross checks locally based archaeo-climatic constructs by superposing findings from regionally diverse geoarchaeological studies across the world. Key areas are the Upper Indus Valley of Pakistan and the lower Hudson Valley in New York. Soil, landform, and sea level based environmental chronologies test the "goodness of fit" of Bryson's model.

Schulting, Rick (University of Oxford) and Mike Richards (Max Planck Institute for Evolutionary Anthropology / University of Durham)

[116] Stable isotope evidence for the early/mid Holocene use and non-use of marine resources in western Europe

Throughout Europe (excepting Scandinavia), evidence for earlier Holocene coastal settlements is rare due to sea level rise. However, stable isotopic analyses of human remains from near-coastal contexts provide the opportunity to investigate the extent to which marine resources were utilised. Here, we report on the results of research in southern Britain and western France, as well as a recent find dredged from the North Sea.

Many of the results show a strong reliance on marine protein, but there is also some intriguing variation, particularly from the earlier Holocene, with near-contemporary sites from the same region showing very different values.

Schultze, Carol (UCLA), Charles Stanish (UCLA) and David Scott (UCLA)

[272] *Pre-Tiwanaku Silver-Lead Cupellation in the Lake Titicaca Basin, Peru*

This paper reports excavations from the U-shaped terraced-pyramid ritual site of Huajje, along the shore of Puno Bay in Northern Lake Titicaca, revealing evidence for craft specialization in silver and textiles, dating minimally to 1690 +/- 70 BP, a period prior to the emergence of the Tiwanaku state several centuries later. Despite looting of tons of precious metal artifacts since the conquest, little evidence is available from archaeological contexts regarding technical processes of their manufacture. The assemblage reported here represents the earliest archaeological documentation of indigenous silver cupellation, suggesting the technology was well-established prior to Tiwanaku state expansion.

Schultze, Carol [58] see Cannon, Laura**Schulze, Niklas (FFyL-IIA/UNAM)**

[74] *The cultural agony of technological choice: The copper bells of the Templo Mayor of Tenochtitlan (Mexico)*

A total of 3,399 bells, made of copper and its alloys with tin, arsenic and lead, were found in the ruins of the consecutive building stages of the main temple of the Aztecs, the Templo Mayor. The bells were analyzed morphologically and compositionally, using a portable XRF. The results permitted to identify clear groupings and made trends of diachronic change visible. Since a comparison of the Templo Mayor bells with those from other regions points towards local production, the changes in form and composition seem to reflect cultural changes in the late postclassic center of Mexico.

[121] *Discussant*

Schumacher, James, Scott Williams (Washington State Department of Archaeology and Historic Preservation) and Stephenie Kramer (Washington State Department of Archaeology and Historic Preservation)

[60] *Managing for the Future: Washington SHPO vs. Effects of Regional Climate Change*

Recognized ancillary effects of climate change (e.g., shoreline and stream channel erosion; increased flood vulnerability) could adversely affect archaeological sites located in the Puget Sound region of Washington State. The Washington State Department of Archaeology and Historic Preservation is exploring regulatory approaches to preemptively respond to such effects, such as measures to strengthen local historic preservation ordinances and incentives for public and private site stewardship. Adaptive strategies, such as incorporating diachronic climate change data into existing geographic information system (GIS) archaeological site predictive models, could help assess potential impacts to identified and as yet unrecognized site locations.

Schurke, Michael

[219] *A Lithic Analysis to Evaluate Montane Hunter-Gatherer Mobility Models in the Pacific Northwest*

Several models of hunter-gatherer mobility in montane environments have been presented for the Pacific Northwest. The Mount Rainier model proposes that a forager-to-collector mobility shift occurred between 4,000 and 5,000 years ago. Stratigraphy and radiocarbon dates confirm archaeological components just before and after a 3,500 year old tephra layer at the Buck Lake Site in Mount Rainier National Park. To test the Mount Rainier and Pacific Northwest models, I will analyze the lithic collection from these components. This analysis will shed light on whether a shift in hunter-gatherer mobility occurred during this time frame.

Schurmans, Utsav (University of Pennsylvania), Harold L. Dibble (University of Pennsylvania) and M. Abdeljellil El Hajraoui (Ministry of Culture, Morocco)

[205] *The Aterian Industries from Smugglers Cave, Atlantic Coast, Morocco*

The site of Smugglers Cave on the Atlantic coast of Morocco is well-known as one of very

few sites where hominin remains are associated with the Aterian. Surprisingly, the stone tool collections associated with these remains were never published. As part of the renewed excavations at the site, this material was studied in 2006. Here we report on the results. The assemblage is characterized by the relative rarity tools in general and of stemmed artifacts in particular. Implications for the recognition of so-called Aterian assemblages and the supposed interstratification of Aterian and Mousterian assemblages in North Africa are discussed.

Schurmans, Utsav A. [269] see Schmidt, Beverly A.

Schurr, Mark (University of Notre Dame)

[49] *Geophysical Surveys at Omey Island, Ireland*

Geophysical surveys were evaluated for identifying and characterizing sites at Omey Island on the western coast of Ireland. GPR surveys were conducted with a Mala ground penetrating radar (GPR) system equipped with 250 MHz and 500 MHz antennas at seven locations. The sites included rock walls or wall remnants, shell middens, and possible mounds. GPR proved to be very effective at identifying buried rock walls and probably for detecting paleosols that were buried under mounds. GPR was not effective at shell middens because the components of the middens do not provide enough contrast against the shell-sand matrix.

Schurr, Mark [49] see Vento, Frank G.; [94] see ARIF, Johan; [161] see Guerrero, Emma

Schurr, Mark R. [91] see Bocinsky, R Kyle

Schurr, Theodore [223] see Schroeder, Kari B.

Schwadron, Margo (NPS-Southeast Archeological Center)

[148] *Shell Work Landscapes and Emergent Complexity in the Ten Thousand Islands, Florida*

The prehistoric coastal foragers of the Ten Thousand Islands engineered a complex landscape of shell work sites, ranging from small, architecturally simple sites to massive sites with complex, monumental architecture. How do changes in shell work sizes and features over time reflect the development of social complexity? What role did demographic changes, subsistence strategies, and corporate labor play in the construction of these features? Archeological testing, GIS and data visualization are used to interpret spatially and temporally variable shell work landscapes, working towards an understanding of the regional settlement pattern and its underlying social structure.

[148] Co-Organizer

Schwarcz, Henry (McMaster University)

[35] *Forensic isotopic tracing of humans: the role of geography and seasonality*

Oxygen is the most abundant element in the body. Its isotopic composition principally reflects the isotopic composition of ingested water. For most ancient humans this is determined by local sources fed by meteoric precipitation (mp). Maps of varying degree of resolution now show isotopic variations in mp over the earth's surface, with prominent gradients from low to high latitude and from coastal to inland regions. Seasonal changes in water consumption patterns also play a role. Tooth and bone mineral allows us to track life-long changes in water use, essential in forensic tracking of victims and migration studies. Examples from forensic and archaeological contexts will be discussed.

Schwarcz, Henry [234] see Macrae, Scott A

Schwendler, Rebecca (SWCA Environmental Consultants)

[104] *Metamorphosis of the "Hokona" Pueblo I-III Site Near El Morro National Monument, Western New Mexico*

Located between Zuni and Acoma Pueblos, the 400 m² LA 153714 (the "Hokona Site") contains evidence for the prehistoric transformation and re-use of a single location over hundreds of years. Sponsored by the NMDOT, SWCA Environmental Consultants

excavated LA 153714 over more than 14 weeks in 2007. We documented 45 cultural features, including masonry structures, pit structures, thermal features, and three human burials. The combination of atypical feature forms, artifacts, and burial treatments expands our knowledge of social interactions during Pueblo I-III times and points to the Hokona Site's unique place at the crossroads of multiple societies.

Schwartz, Steve, Dennis Sandgathe (University of Pennsylvania), Harold Dibble (University of Pennsylvania) and Shannon McPherron (Max Planck Institute for Evolutionary Anthropology)

[94] *New Information on the Neanderthal Infant Burial from Roc de Marsal, Dordogne, France*

In 1961 amateur archaeologist Jean Lafille unearthed the remains of a Neanderthal infant skeleton at the Middle Paleolithic cave site of Roc de Marsal, located in Campagne-du-Bugue, Dordogne, France. Lafille described the context of his discovery as an excavated pit containing an intentional burial. This has since become one of the more important examples of Neanderthal burial in the archaeological record. New data from current excavations, studies of the collections from the original excavations, and archives research, provides us with significantly more detail about the original stratigraphic context of this important discovery.

Scott, Ann (University of Texas at Austin) and Judith M. Maxwell (Tulane University)

[280] *The Concept of Cave in Contemporary Kaqchikel Maya Sacred Geography*

Recent fieldwork documenting modern Kaqchikel Maya sacred sites in the west central highlands of Guatemala revealed a complex relationship between sacred geography and the concept of the cave. Although the Kaqchikel live in a non-karstic region where caves rarely form naturally, various features identified as "jui" are recognized as important sacred landmarks. This paper outlines the physical variability in features identified as caves and attempts to isolate the elements essential to their recognition by ritual specialists. The function of cave features in modern ritual is discussed and reasons why caves must be present in the sacred landscape are suggested.

[280] Chair [280] Co-Organizer

Scott, Ashley Rae [297] see Davis, Peter F.

Scott, David [272] see Schultze, Carol A.

Scott, David A. [28] see Warmlander, Sebastian

Scott, Patrick (University of Chicago)

[178] *The elite category in the Late Moche hinterland*.

The use of the elite category in explanations of the end of the Moche period is examined. It is argued that the category serves as a Trojan horse that sneaks in assumptions about human behavior—based on the wisdom of cross-cultural generalities and pervasive theoretical constructs—that may not be appropriate in light of recovered data. While the elite remains an heuristic well-suited for analyzing social relations, the use of such a loaded category can prefigure the explanation to the point that the data are subordinated to the categorical expectation.

Scott, Rachel (Arizona State University)

[264] *Gender perception and performance in early medieval Ireland*

Current knowledge of gender in early medieval Ireland (c. AD 400-1200) derives primarily from contemporary texts. Written by educated males, these documents depict an idealized world in which women and men fulfill the roles considered appropriate for their gender. Analysis of the archaeological and human skeletal data, however, reveals that this perception did not translate into the actual performance of gender identities. Activities emphasized in the texts occur only rarely in the archaeological record. This paper integrates the diverse lines of evidence to produce a more nuanced understanding of gender, as perceived and performed, in early Irish society.

Searcy, Michael (University of Oklahoma) and Scott Ure (Brigham Young University)

[81] *Laptops in the Sand: Using Rugged Computers in the Field*

Collecting data in a field environment via paper and pencil has been the standard for decades. Previous attempts to introduce computers into harsh archaeological environments have proven generally unsuccessful, often resulting in damaged equipment and wasted money. While traditional data collection has a solid, time-tested past, the advent of rugged, field-capable computers offers new exciting possibilities for today's archaeologist. This paper reports the pros and cons of using Panasonic's Toughbook at two archaeological sites in Utah's unforgiving deserts.

Sears, Erin [257] see Demarest, Arthur A.

Sears, Gareth [54] see Gaffney, Chris

Segura, Rafael (Southern Illinois University, Carbondale) and Izumi Shimada (Southern Illinois University, Carbondale. Department of Anthropology)

[147] *The Wari footprint on the Central Coast. A view from Cajamarquilla and Pachacamac* MH urban centers have been pivotal in the construction of the expansive Wari state model. However, some of those centers have been considered to be Wari imposed or inspired in their origin on the basis of externally defined architectural diagnostics rather than results of exhaustive fieldworks. Examination of preliminary results from our excavations (2000-2005) at Cajamarquilla and Pachacamac on the Central Coast indicates imported Wari and Wari-derived material remains are scarce and almost exclusively occur in funerary contexts. We need new interpretive models that better consider the late Lima and other local developments in defining the Wari-local interactions.

Seibert, Jeffrey

[234] *Classic Maya Range Structures at Minanha, Belize*

In this paper I plan on discussing the artifactual and architectural data recovered from excavations conducted in a number of range structures at Minanha, Belize, in particular structures excavated in the epicentre of the site. These excavations revealed a great deal about these structures as possible locales for various public activities, and further analysis has honed these findings, allowing for more nuanced inferences to be drawn. This paper draws from multiple field seasons' excavations at Minanha and comparative data from throughout the Maya area, thereby allowing broader conclusions about this class of structure to be made.

[234] see Zehrt, Claudia

Seinfeld, Daniel (Florida State University)

[314] *Mimesis and Alterity in Ancient Mesoamerican Intoxication Rituals*

This paper will explore how the concepts of mimesis and alterity can aid in understanding the meanings of rituals involving intoxication as seen in ancient Mesoamerican iconography. The paper will draw on ethnographic and ethnohistoric accounts of intoxication rituals in Mesoamerica to make inferences about behaviors depicted in ancient artwork. I will explain the role mimesis played in connecting to supernatural forces during such rituals and how people constructed identities through their mimetic behaviors.

Seinfeld, Daniel [314] see Pohl, Mary

Sellen, Adam (CEPHCIS, Ex-Sanatorio Rendon Peniche)

[107] *Lord Kingsborough of Oaxaca: Manuel Martínez Gracida's archaeological collection*

Manuel Martínez Gracida was a top-level civil servant in porfirian era Oaxaca, the epitome of a nineteenth-century bureaucrat who was unparalleled in his prolific writing and documenting. Like other gentlemen of his time he amassed an archaeological collection from nearby ruins and was hailed as a Mexican Kingsborough for creating a Magnum opus of Oaxacan history and archaeology. However, the death of his benefactor, Porfirio Díaz, left him unemployed and his work unpublished. The purpose of this paper is to explore his legacy and reconstruct his archaeological collection that has been dispersed to museums all over the world.

Sellet, Frederic (University of Northern Colorado)

[184] *Missing the forest for the trees: uses and abuses of projectile point typology in Paleoindian archaeology*

Nowhere are archaeologists more eager to dive into a discussion of projectile point typology than in North America. Point types are used to touch on topics as varied as the peopling of the New World, mobility, social or subsistence strategies. More problematic is the use of typology to approach questions of cultural diversity. Can we answer these issues by studying how weaponry changed through time and space? A clue is provided by a historical perspective on how a typological feature such as fluting has been variously interpreted through time and used to fit changing paradigms about the first Americans.

Semon, Anna (American Museum of Natural History)

[113] *From Clay to Culture: A Preliminary Study of Aboriginal Ceramic Ecology on St. Catherines Island, Georgia*

St. Catherines Island (GA) provides a unique opportunity to examine a five-thousand-year ceramic tradition in its full environmental context. The present study focuses on the way in which local raw materials (clay and temper) are extracted for ceramic manufacturing. The overall objective is to understand the aboriginal use of island wide resources, however this exploratory project concentrates on how the same natural environment is exploited at two vastly different aboriginal sites – the St. Catherines Shell Ring (Late Archaic) and Meeting House Field (Late Prehistoric). This paper presents preliminary data and results on various resource collections, clay characteristics and portable XRF analysis.

Semon, Anna [173] see Thomas, David Hurst

Semon, Anna M. [113] see Napolitano, Matthew F.

Seramur, Keith C. [99] see Whyte, Thomas

Serra, Mari (IIA-UNAM) and Carlos Lazcano (Coordinación de humanidades, UNAM)

[150] *Los Olmeca Xicalanca en Tlaxcala. Mito o Realidad.*

Diversos textos como la Historia Tolteca-Chichimeca o la Descripción de la provincia de Tlaxcala de Diego Muñoz Camargo, establecen la existencia de los Olmeca-Xicalanca. Según estos documentos este grupo multietnico tiene su origen en la Costa del Golfo y diversos autores como Thompson, Jiménez, Chadwick, Paddock, Miller y García entre otros, han aportado ideas sobre su origen, filiación étnica y la importancia que tuvieron en Tlaxcala. Sin embargo, y gracias a los últimos estudios arqueológicos realizados en el Valle Puebla-Tlaxcala nos permiten desmitificar la presencia de los Olmeca-Xicalanca en Tlaxcala.

Serra, MariCarmen [150] see Lazcano Arce, Carlos

Sever, Tom [158] see Dunning, Nicholas P.

Sewell, Kristin (Statistical Research, Inc.) and Cannon Daughtrey (Statistical Research, Inc.)

[211] *The Anthropology of Mass-produced Footwear: Reflections on the significance of shoes as funerary objects*

From the Ancient Greeks to modern Judeo-Christian traditions, from the east to west, and from Cinderella to Sex and the City, shoes have played an important role in belief systems, myths, folklore and pop culture through the ages. Shoes recovered from cemetery contexts are often interpreted by archaeologists merely as indicators of economic status. Examination of several 19th century cemetery excavations, however, finds that shoes, while continuing to be a status indicator, are much more meaningful. In cemetery contexts, shoes are intensely personal objects that offer clues about status, health, religion, and community and illustrate their value beyond basic utility.

Seymour, Deni

[62] *Pre-Differentiation Athapaskans (Proto-Apache) in the 13th and 14th Century Southern Southwest*

The earliest evidence for proto-Apache or pre-differentiation Athapaskans in the extreme southern Southwest comes from both the mountains and the plains. Dates in the fourteenth century, and seemingly earlier, are emerging in numerous contexts in association with distinctive material culture.

[62] *Chair*

Shackley, M. Steven [241] see *Milic, Marina*

Shady Solis, Ruth [83] see *Coutts, Karen H.*

Shafer, Harry

[53] *A Hunter-Gatherer's Tool and Medicine Kit*

An intact tool and medicine kit was unearthed in a dry rockshelter in the Lower Pecos River region of southwest Texas in the 1930s. The kit contained possible medicines, spare sinew, cordage, jackrabbit mandible scarifies, mountain laurel seeds, buckeye seeds, a leather thong, three bifaces, several hard-hammer flakes, retouched edge flakes, a hammerstone, two antler punches, and an antler pressure-flaking tool. The kit provides insight into the strategies for anticipated needs and expediency in light of recent research concerning efficiency of bifacial versus expedient core technologies.

[267] *Discussant*

Shaffer, Brian (Dallas Historical Society)

[221] *Finger Bones Cut from the Men at Little Bighorn*

...described the 1940 donation to the Dallas Historical Society that included bones, a photograph, and documentation. Human bone trophies are reported across North America including actual specimens, photographs, oral or written histories, and sometimes by non-human remains passed off as human. The latter three factors combined to form a plausible provenance such that the donation was reported to NAGPRA, Native American groups, US Army, and National Park Service. Examined by an osteologist for the first time in 2007, the bones were found to have some cut marks, but were artiodactyl, and possess a value only for Little Bighorn mythos.

Shanandoah, Resha [304] see *Beary, Mark O.*

Shantry, Kate (Northwest Archaeological Associates)

[321] *The Distribution of Labrets in Puget Sound*

Regional syntheses of labrets, a type of lip ornament indicating status, have been provided northward of the Gulf of Georgia, omitting Puget Sound where styles of labrets with varying material types have been identified in low frequencies. Occurrences of labrets include Sucia Island, Decatur Island, Cherry Point, Anacortes, Whidbey Island, and Elliot Bay. This paper summarizes the data on labrets in Puget Sound and examines the diffusion of this artifact type on the Northwest Coast and social implications for Coast Salish cultures.

Shapiro, Beth (Oxford University), Ian Barnes (Royal Holloway University of London) and Jacobo Weinstock (University of Copenhagen)

[223] *Did We Kill the Megafauna? Exploring the Evidence Using Genetic Data*

The recent proliferation of large molecular genetic data sets, in combination with the development of sophisticated statistical analysis techniques, has significantly improved the capacity to address questions about the role of the first human populations in North America in the demise of the megafauna nearly 10,000 years ago. Using data from three large mammal species: bison, horses and mammoth, we explore the various hypotheses surrounding the megafaunal extinction and arrival of humans in North America. We demonstrate how modern bioinformatics techniques can be used to test specific hypotheses about how population size and diversity changes through time space.

Shapley, Jake [128] see *Lubinski, Patrick*

Sharer, Robert (University of Pennsylvania Museum) [181] Discussant

Sharratt, Nicola (Dept Anthropology, UIC)

[263] *Tiwanaku Statehood: shifting perspectives from the Moquegua Valley*

The Tiwanaku occupation of the Moquegua Valley has received considerable archaeological attention since the inception of the Programa Contisuyo in 1983. Excavated domestic, ceremonial, mortuary and agricultural contexts have all informed developing interpretations of the nature of the occupation. This paper presents a brief overview of changing conceptions of Tiwanaku, exploring the ways that these conceptions inform and have been informed by broader anthropological notions of statehood. Finally, it presents recently excavated data from a late Tiwanaku site in the Moquegua valley that will contribute to a particular aspect of statehood – the decline of states.

Shaughnessy, Roxane (Textile Museum of Canada), Andrew Nelson (University of Western Ontario), Christine White (University of Western Ontario) and Fred Longstaffe (University of Western Ontario)

[274] *Isotopic evidence for the social economy of textile production in ancient Peru*

The carbon and nitrogen isotope compositions of fibres from museum textiles attributed to several time periods and locations along the north coast and highlands of Peru were used in this study to inform current thinking about production methods, trade, and the relocation of animals or specialists involved in textile production in ancient times. Fibre analysis supports camelid diet variability and confirms the social economy of Peruvian textile production was complex. More data are needed to determine the extent and temporality of different strategies.

Shaw, Jennie (University of Washington)

[194] *Economies of Driftwood: The Role of Extralocal Resources in Island Ecosystems*

The Gulf of Alaska coastline exhibits extreme variation from east to west, encompassing dense forests and windswept tundra. Maritime societies took advantage of ocean circulation to moderate this resource patchiness, which was further exacerbated by Holocene climate fluctuations. Driftwood, in particular, was used as fuelwood for 7,000+ years and likely buffered against wood shortages in delicate island ecosystems. Charcoal analyses from the Kodiak Archipelago reveal a flexible, though increasingly selective strategy of fuelwood use by early inhabitants. This study highlights the role of fuelwood in general, and driftwood in particular, to northern mobility models and to definitions of “maritime economy.”

Shaw, Justine (College of the Redwoods)

[297] *Explaining the Timing of Sacbe Construction in the Cochuah Region: Sacbeob as a Terminal Classic Phenomenon?*

In the Cochuah region, the sites of Ichmul and Yo'okop were occupied from the Middle to Late Formative into the Postclassic. However, each only constructed causeways during the Terminal Classic. The temporally-restricted nature of the phenomena raises critical questions including not only why the two regional capitals chose to build roadways, but also why they were built only during this time. What unique conditions prevailed then that encouraged the investment in building monumental roads? This effort to explore these problems considers factors unique to the region, as well as conditions that prevailed over a larger area.

Shea, John (Stony Brook University) [95] Discussant [29] Discussant

Sheehan, Michael (SWCA), Grant Fahrni (Logan Simpson Design), Heather West (SWCA), Saul Hedquist (SWCA) and Thomas Wright (SWCA)

[281] *Consumed by Conspicuous Consumption?*

SWCA Environmental Consultants conducted an intensive survey of 10,000 acres in the Rainbow and Mobile Valleys south of the Phoenix metropolitan area. The remains of several historic era homesteads were identified during the course of the survey. One of these, the Mims Homestead, provides an interesting opportunity to examine conspicuous

consumption in an African-American Community. The Mims Homestead consists of numerous features exhibiting characteristics and spatial organization that transcend mere function. The Mims Homestead master plan was never completed and so it is interesting to speculate over the possibility that it was consumed by conspicuous consumption.

Sheehan, Michael [104] see *Hedquist, Saul L.*

Sheehan, Thomas [104] see *Hedquist, Saul L.*

Sheets, Payson (University of Colorado)

[41] *Research Objectives and Results South of the Ceren Village, El Salvador*
The objective of the recent research south of Ceren, El Salvador, was to explore agricultural variability and productivity. Numerous geophysical anomalies were detected with ground-penetrating radar. Three areas of interest were excavated, with one being a cleared area, another a high-performance maize milpa, and another being intensive manioc planting beds. Traditional planting of manioc produces five to ten times more calories per unit area than maize, and the Maya may have cultivated it more broadly than generally believed. Manioc is notoriously difficult to detect archaeologically, but in this case the Loma Caldera volcanic tephra provides an unusually clear view.

[302] *Discussant; [41]* see *Guerra, Monica F.*

Shelach, Gideon (The Hebrew University) and Leore Grosman (The Weizmann Institute of Science)

[22] *From the Younger Dryas to the Yellow River: The Relevancy of West Asian Correlations between Environmental Change and the Beginnings of Agriculture for an Understanding of East Asian Prehistory*

Modeling of the various possible circumstances that led to the origination of agriculture in the Levant has concentrated on a few major variables: environmental change, social processes, and cognitive developments. In recent years, these arguments have been adopted to explain the development of agriculture in China. In this paper we compare the archaeology of the two regions and examine the relevancy of such arguments, especially those that correlate environmental and social change, to an understanding of Chinese prehistory. We also compare and address issues related to the scale of the prehistoric phenomenon and the resolution of our knowledge.

Shelby, Thomas (University of Alabama Museums)

[21] *Results of excavations at 1Mt209, a multi-component site in east-central Alabama.*
Site 1Mt209, a shallow, multi-component site along Catoma Creek in Montgomery County, Alabama, was the subject of salvage excavations both in 1976 and 2005-06. This paper aims to summarize the results of these excavations, which have revealed intermittent occupation from Late Paleo-Indian through the Late Woodland and Mississippian Stages. Collectively, over fifty features and midden deposits have been identified at this primarily Middle Woodland site, ranging from refuse pits, hearths, rock clusters, "pot busts" of check and complicated stamped vessels, artifact clusters, and a circular house with a depressed floor, postholes, central hearth, a midden, and a pebble feature.

Shelmire, J. Kyle [93] see *Pedler, David*

Shelton, China (Boston University Dept. of Archaeology)

[206] *A Paleoethnobotanical Perspective on Marginality and Group Identity during the Iron Age in the Sangro River Valley, Abruzzo, Italy*

Excavations Sangro River Valley, Abruzzo, Italy have exposed two farmstead sites dating respectively to the 7th-5th centuries B.C. and to the early Roman Empire. The former site relates temporally to the development of a social group known as the Samnites. Paleoethnobotanical samples were collected from the excavations. Preliminary results show a dominance of bitter vetch, historically regarded as an "undesirable" food. It is here argued that bitter vetch was produced for human not animal consumption, and the dominance of this taxon is considered in light of agricultural production within marginal environments, and the relationship between environment and group identity.

Shen, Chen (Royal Ontario Museum) [151] Discussant

Shen, Chen [75] see *Zhang, Xiaoling*

Shenandoah, Resha [304] see *Heckman, Robert A.*

Sheppard, Jon [172] see *Morin, Jesse D.*

Sheppard, Peter (University of Auckland) and Richard Walter (University of Otago)
[252] *Lapita, Linguistics and Leapfrogs: A New Model of Colonization of Remote Oceania*
Previous models of colonization of Remote Oceania (the area south and east of the Solomon Islands) have assumed a continuous wave of advance starting in the Bismarck Archipelago and ending in Samoa. Our research in the Solomon Islands has failed to support this model and we propose a 'leapfrog' model which sees initial movement as a rapid jump over the main Solomon Islands. This helps explain characteristics of the earliest sites on the edge of Remote Oceania, the speed of colonization of the western Pacific and aspects of Austronesian linguistics of the region.

Sheptak, Rus (University of California - Berkeley)

[290] *Cicumba Contested: Documentary and Material Traces of Early Colonial Indigenous Practice*

The documentary record, like the archaeological record, is equally a material residue of the production, reproduction, and contestation of cultural structures. Historical archaeology builds on both kinds of material remains. This paper examines the negotiation of new social structures during the formation of early colonial society in the Ulua River Valley of northern Honduras in the sixteenth century. Here, Ticamaya, a newly fortified river town was the location from which a military campaign against Spanish incursion was managed for more than a decade. A dialogic perspective on documents and other material residues allows the identification of orthodox and heterodox practices.

Sheptak, Russell [59] see *Maldonado, Doris*

Sherwood, Sarah (University of Tennessee)

[259] *Geoarchaeological Research at the Bronze Age tell of Pecica "Santul Mare", western Romania.*

During the Bronze Age concentrated permanent villages in the Carpathian Basin resulted in monumental tells that contain complex records of significant social and economic processes. An important part of this record is the intricate deposits that can be linked to activities and post-depositional processes. Preliminary results are reported from on-going excavations at the great tell of Pecica "Santul Mare" on the Mures River in western Romania. Deposits are analyzed from the perspective of microfacies using techniques of micromorphology, SEM-EDAX and FTIR revealing complex depositional histories of combustion features, construction materials and various fuels including dung.

Shewan, Louise (University of Sydney), Dougald O'Reilly (University of Sydney) and Nancy Beaven-Athfield (Rafter Radiocarbon Laboratory)

[141] *The Development of Cultural Complexity: Isotopic Characterization of Cambodian Skeletal Material and Environment*

How populations utilized their environment is critical to understanding past economies and patterns of social change. The measurement of isotopic markers (^{87}Sr , ^{13}C , ^{15}N , ^{18}O) preserved in human skeletal material provides new insight into the nature and activities of early agrarian societies and the residential behaviour of communities during the formative stages of state development in Cambodia. The isotopic characterization of skeletal material and modern biological isotope survey (based on fauna and flora) establishes a unique database of baseline values from which to compare other site-specific results and facilitates the understanding of regional development and cultural variability between Cambodia and her neighbours.

Shi, Benheng (Université de Rennes 1-CNRS, Campus de Beaulieu), Fengshi Luan (The center for East Asian Archaeology Studies, Shandong University, China) and Jean-Noël Proust (Geosciences Rennes, Université de Rennes 1-CNRS)

[75] *Phytolith Analysis of Plant Use in Ancient Shandong Peninsular, China*

Phytolith samples were collected from thirteen archaeological sites of Shandong Peninsular, China to study the plant use of people in the geographic area during the Mid-Holocene. The analysis of the phytolith samples can help identify plants to more specific identification, which shed new light on how people dealt with plant resources. It is expected that this study will help us to understand agriculture practices, especially rice planting activities. The data also show some difference of the early plant use between coastal and inner highland archaeological sites, indicating early subsistence practices were significantly affected by environmental, climatic and landscape differences.

Shiegl, Solveig [259] see Berna, Francesco

Shigeru, Kabata [180] see Fukuhara, Hironori

Shimada, Izumi (Southern Illinois University)

[96] *A Multi-Craft Perspective on the Production, Use and Significance of Metals in the Middle Sicán Culture of Peru*

Based on data collected from workshop excavations, replicative experiments and archaeometric analysis, this paper examines the development of Sicán metallurgy (ca. A.D. 900-1100) on the north coast of Peru from the perspective of multi-craft interaction; i.e., how the material ingredients (including fuels), technologies, symbolism and sponsor/consumer-producer relationships of concurrent, multiple crafts (particularly ceramics, metallurgy and weaving) shaped metallurgical production and products. This broadly based approach elucidates many aspects of metallurgy that have not been traditionally considered.

Shimada, Izumi [92] see Wagner, Ursel; [147] see Segura, Rafael

Shiner, Justin [154] see Holdaway, Simon J.

Shipley, Richard (Utah State University) [199] *Discussant*

Shock, Myrtle (University of California, Santa Barbara) and Renato Kipnis (Universidade de São Paulo)

[90] *Archaeobotanical insights into diet on the Brazilian savanna, 500-2000 BP*

The agricultural inhabitants of the Brazilian savanna were using many of indigenous, undomesticated plant foods. This poster will demonstrate the relative contributions of introduced domesticates, especially corn, and indigenous plants to the diet of those who lived in the Lapa dos Bichos rock shelter in southeastern central Brazil. Botanical remains in a wonderful state of preservation have been recovered from more than twenty shallow features at the site dating to the last two thousand years.

Sholts, Sabrina (University of California, Santa Barbara) and Phillip L. Walker (University of California, Santa Barbara)

[28] *Three-dimensional Data Analysis of Artifacts from a Viking Age Settlement in Mosfell Valley, Iceland*

Analysis of 3D models of artifacts such as spindlewhorls and whetstones from a Viking Age settlement in the Mosfell Valley of Iceland reveals patterns of variation that are not apparent using conventional methods. Using data generated from 3D models produced by high-resolution laser scanners, archaeologists can quantify the properties of artifacts and isolate features or segments of particular interest. 3D models also have the advantage of reducing the chances for damage to poorly preserved artifacts by reducing the need to handle them. This approach provides new insight into the manufacture and use of tool technology during the Viking Era.

Sholts, Sabrina B. [28] see Richman, Rebecca L.

Shott, Michael (University of Akron)

[29] *Stone-tool Demography: Reduction Distributions in Paleoindian Tools*

Like people, stone tools age. Aging is by reduction during use, varying by context in degree and pattern. Reduction is a continuous process that requires commensurate measurement and analysis. Like individuals, each tool is reduced to some particular degree; like populations, sets of tools are reduced to varying degrees expressed as reduction distributions. I fit such distributions of Paleoindian points and scrapers to mathematical models for efficient description and to identify causes of discard. Reduction analysis is not a new tool, just the thoughtful use of simple measurements and practices to make better sense of how the record formed.

[236] *Discussant*

Shott, Michael [57] see Garcia-Herbst, Arleen

Shugar, Aaron (Art Conservation Department) [121] *Co-Organizer*

Shuman, Bryan (University of Wyoming)

[143] *The Varied Climatology of the Younger Dryas Chronozone: A Case Study of North American Moisture Patterns*

The character of the abrupt climate changes that defined the beginning and end of the Younger Dryas chronozone (YDC; ca. 12,900–11,600 cal yr BP) varied spatially, particularly with respect to moisture. Seasonally cool conditions were extensive during the YDC, but lake-level data indicate that water levels differed among regions. Wet conditions developed in some regions; dry conditions in others. Isotopic data reveal that the moisture regimes had novel seasonal signatures, and may have continued to change during the YDC. Human societies, therefore, faced new conditions during the YDC that differed among regions and were unique within the past 15,000 yrs.

Sidoroff, Maria-Louise (Independent Scholar), Bill Schindler (Monmouth University), George Pevarnik (Temple University) and R. Michael Stewart (Temple University)

[24] *An Experimental Approach to Understanding Clay Selection by Ancient Potters in the Delaware Valley*

Clays that fire white/tan are well represented, along with other clays, in a variety of sources in the Middle and Lower Delaware Valley. Yet archaeological examples of vessels made from this clay are relatively rare. Experimental vessels were constructed from several clay and temper mixtures to identify the combination necessary to facilitate workable paste, successful firing, and functional vessels. Samples of the clays, temper, experimental vessels, and archaeological sherds from white/tan vessels were analyzed by XRD and petrographic thin sections, and compared to better understand and account for their forming/firing characteristics and under-representation in the archaeological record.

Sieg, Lauren (University of Illinois, Urbana-Champaign)

[26] *Canines to Talons: Motifs of the Hopewell Horizon*

Studies of Hopewell horizon iconography have largely dealt with its structural components, such as principles of duality, symmetry, and tripartite organization. A formal typology for images remains to be developed but is critical for rigorous analysis of Hopewellian iconography. Here, Ohio Hopewell objects from multiple sites are examined to create a glossary of Hopewellian motifs. Motifs include geometric forms, synecdochical images, and complete naturalistic forms. They are combined to create complex imagery, such as bird/bear composites. This typology provides a standardized lexicon for iconographic research and can be further developed by the addition of motifs from other Hopewellian horizon regions.

Siegel, Peter (Department of Anthropology)

[196] *What Do We Mean by an Archaeological Culture? The Concept of "Taíno" in the Pre-Columbian Caribbean*

Caribbean archaeologists typically talk about Taíno and pre-Taíno cultures, generally nodding to each other in mutual understanding. This happy state of affairs has dissolved in

recent years as archaeologists increasingly question assumptions about language, mutual intelligibility between "Taíno" groups, origins, and degrees of homogeneity vs. heterogeneity. What exactly did it mean to be a Taíno? Were there matters of language, material culture, sociopolitical organization, existentialism, or some combination that were important in defining Taíno culture? Linking anthropological concepts of "culture" to issues of Caribbean archaeology, a perspective for ongoing research is offered without jettisoning the term "Taíno" from our discourse.

[240] *Discussant*

Siegel, Peter E. [319] see *Jones, John G.*; [319] see *Casile, Claudette A.*

Siemens, Alfred (University of British Columbia) and Richard hebda (Royal British Columbia Museum, Victoria, B.C.)

[109] *[Analysis of sediments out of the upper basin of the Candelaria River, Campeche, Mexico]*

Rocky impediments cross this river just downstream from the present town of Candelaria; they are partly natural and partly built-up. These pre-hispanic "dams" apparently served to maintain water levels in the upstream basin, making it a long lake and facilitating canoe transportation as well as raised field agriculture. This paper reports on a series of 5-meter cores retrieved from lacustrine sediments above the dams. They provide evidence of early occupancy and agricultural land use; they also corroborate our initial ideas about water management in the basin.

Sievert, April

[312] *Stone and the Value of Durable Technology on the Andean Coast*

People living at archaic period Kilometer 4 used a generalized stone technology that included a variety of ground and chipped tools. Materials are primarily local, and tool design and maintenance resembles that for contemporaneous sites in the region. Subtle temporal and spatial differences in tool design and distribution point toward changes in both economic use-contexts and social connections over time. This paper interprets the value of stone technology for the inhabitants of Kilometer 4, and looks at ways in which stone represents the use of durable technology at different scales of analysis.

Sievert, April K. [293] see *Garver, Lydia*

Silliman, Stephen (UMass-Boston)

[290] *Remembrance and Residence: The Dynamics of Cultural Practice*

This paper argues that one fruitful way to use practice theory in archaeology is to consider practices as cultural acts of memory and residence. Doing so blends the routine and the novel in our interpretations of social agency in the past, and it permits a reframing of the ways that we try to connect materialities and identities by re-inserting practice between them. I have found this perspective useful for studying the cultural processes of colonialism, and I offer here further development of these ideas using an archaeological case from colonial southern New England.

[201] *Discussant*

Sills, Elizabeth

[84] *The Architecture of Ancient Maya Saltmaking; Distribution and Analysis of Preserved Wooden Posts at the John Spang Site in Paynes Creek National Park, Belize*

This paper presents the analysis from archaeological investigations undertaken in 2006 at the John Spang Site, a Late Classic Maya saltwork, in Punta Ycacos Lagoon, in Paynes Creek National Park, southern Belize. The field survey mapping yielded over 149 wooden architectural posts preserved below the sea floor in mangrove peat. The presence of briquetage indicates the wooden architecture is associated with the infrastructure associated with production and distribution of salt. The spatial distribution of the wooden posts reveals evidence of structures associated with salt production along the coast in southern Belize produced and distributed for the Late Classic Maya.

Silva, Mike [188] see *Graham, Tyler M.*

Silva, Rosicler (Instituto Goiano de Pré-História e Antropologia - Universidade Católica de Goiás) and Julio Cesar Rubin de Rubin (Universidade Católica de Goiás)

[31] *The Carrapato Archaeological Site zoning*

The Carrapato archaeological site is located in the Central Plateau of Brazil. This site was divided into five zones. This zoning was done using information from satellite images, analyses of thematic maps, field reconnaissance and pits drilling along the north/south and east/west directions, allowing the field team to identify the natural and anthropic processes that occurred in the area. Based on these procedures research has advanced regarding on the understand of the horizontal and vertical distributions of cultural evidence as well as the influence of the natural and anthropic processes in the formation of the archaeological site.

Silverman, Shari (HDR Engineering, Inc.)

[105] *Travel and Culture of the Plateau Culture Area*

Transportation mirrored and influenced several facets of the Plateau Culture Area. Modes, such as canoes, horses, and snowshoes, influenced trade routes, inter-group interaction, and activities. They affected speed, ability to transport items, and distance of travel. However, the environment bounded their routes. After the horse's arrival, people who lived in navigable water-rich areas continued to canoe frequently. Conversely, landlocked groups adopted the horse. The horse's increased range allowed groups to associate with a wider variety of cultures, affecting their own. The horse's altered route, however, also led to diminish contacts with earlier associates.

Silverstein, Jay (JPAC/U of Hawaii), David Webster (PSU), Horacio Martinez (IDAEH), Kirk Straight (PSU) and Tim Murtha (PSU)

[158] *Earthworks or Waterworks: Contextualizing the Great Tikal Ditch*

Here we present a hypothesis suggesting that the "Great Earthworks" of Tikal had a primary function as a linked series of limestone filtration trenches designed to collect and direct infiltrating precipitation rather than as an extensive uniform defensive feature. Several characteristics of the earthwork, including its aspect on slopes, the common and variant morphologies of the ditch, and the overall topographical situation of the earthwork, are explained in terms of their function as a hydraulic construction. Furthermore, we place the earthwork within a context of other hydraulic constructions in both the acropolis and the hinterlands of Tikal.

[158] *Chair*

Simek, Jan (University of Tennessee), Alan Cressler (US Geological Survey) and Sarah Blankenship (University of Tennessee)

[258] *Early Mississippian Cave Art from 12th Unnamed Cave, Tennessee*

12th Unnamed Cave is a small Tennessee karst cavity that contains the richest assemblage of prehistoric cave art (nearly 400 images) anywhere east of the Mississippi River. The art is dominated by human and avian images. Abstract signs, serpents, and human/avian transformations are numerous. Mud glyphs are present in a deeper stream passage that may or may not relate to the petroglyphs. Detailed mapping of the cave walls shows that the glyphs form a large composition focused on a deep pit in the back of the decorated passageways. A series of C14 dates indicate use during the Early Mississippian period.

[102] *Discussant*

Simek, Jan [258] see Blankenship, Sarah A.

Simmons, Alan (University of Nevada Las Vegas, Department of Anthropology)

[69] *Until the Cows Come Home.....*

Early Neolithic cattle have recently been documented in Cyprus. This is significant because they: had not previously occurred until the Bronze Age, disappeared later in the Neolithic, represent some of the earliest likely domesticated cattle, and inform us of processes in colonizing under-inhabited landscapes. This is a perplexing case of both incorporation and subsequent abandonment of an important species. We are addressing cattle's role in an Early Holocene diversification and intensification strategy that contrasts with the island's earliest inhabitants, who likely overhunted endemic pygmy hippopotamus into extinction.

Simmons, Scott (Department of Anthropology University of North Carolina Wilmington)

[248] *Technological Persistence and Change in Postclassic Period Maya Metallurgy*

The advent of metallurgy in the Maya area followed millennia of stone tool and ornament production. Other materials, such as shell and bone, were also used by the Maya as tools and as social symbols. While it appears that metal never fully replaced these materials for either utilitarian or non-utilitarian purposes, metallurgy nevertheless appears to have been embraced as a viable technology by a number of Maya. This paper explores persistence and change in Maya metallurgy with an emphasis on technological and stylistic variation across both the Lowland and Highland areas during Postclassic times (ca. AD 1000-1500).

[121] *Discussant*

Simms, Stephanie (Boston University Department of Archaeology) and George J. Bey III (Millsaps College)

[110] *Prehispanic Maya plant economies: phytolith evidence from Kiuic, Yucatán*
Subsistence strategies and social organization are fundamental themes to research conducted by the Labna-Kiuic Regional Archaeological Project. This paper presents the results of phytolith analysis, which remains were extracted from sediments representing 1500 years of continuous occupation at the residential site of Kiuic. The study of phytoliths and other plant microfossils affords primary evidence of prehispanic Maya plant economies. Such techniques are especially important in a region where ethnographic models and broad assumptions substantiate most discussions of foodways. Here, the phytolith data offer insight into the dynamic relationship between humans and plants in the Puuc region of the Maya area.

Simms, Steven (Utah State University), Bonnie Pitblado (Utah State University) and Patricia Lambert (Utah State University)

[9] *Masters Degree Program in Cultural Resource Management Archaeology at Utah State University*

A survey of archaeologists in 2006 by the American Cultural Resources Association found that 87.2 percent favor the establishment of graduate programs that serve the Cultural Resource Management industry. Utah State University is developing such a Master's Degree program for the Great Basin and Intermountain West. Basic skills identified in surveys of CRM archaeologists as important to successful employment are integrated with research, and with internships at private companies and government agencies. The program prepares students for career paths beyond that of an archaeological technician.

Simon, Arleyn [12] see Swanson, Steve

Simonetti, Antonio [274] see Andrushko, Valerie A.; **[274]** see Buzon, Michele R.

Simons, Dave [125] see Schlanger, Sarah H.

Sims, Marsha (Nat Resources Conserv Svc)

[308] *Olmec Colossal Heads, Extinct Fauna Depicted in Artwork, and Environment in Colorado, Stranded in the Mountains or Habitat of Choice?*

Sites of Middle America have produced unique types of art categorized typically as Olmec culture, such as colossal head sculptures and jaguar motifs, and examples of this style are discovered on the edge of the Great Plains in the Rocky Mountains of North America. This paper concentrates on images in Colorado that are compared with cultures in Tres Zapotes, Vera Cruz, and the mountains and coasts of Middle America along with images of some extinct fauna in a large scale. Environmental factors provide a setting chosen in the mountains and ties are shown between these areas.

Sinelli, Pete (University of Central Florida)

[63] *Indigenous exploitation of small cay environments in the southeastern Bahama archipelago*

More than 40 named islands and cays form the nation of The Turks and Caicos Islands in

the southeastern Bahama archipelago. Today only eight of the largest islands are occupied, but in prehistory, the story was different. Recent excavations and surveys of small, presently uninhabited islands and cays in the region have yielded substantial evidence for widespread and intensive indigenous exploitation of these environments. This presentation will review the archaeological evidence and discuss what role small cays may have played in the archipelago's settlement patterns in the 11th through 13th centuries AD.

Sinkovec, Christina

[5] *The Curation of Lithic Debitage Collections: Current Practices, Problems and Future Directions*

Lithic debitage collections are often curated as though they were virtually indestructible. A series of controlled experiments involving the repeated mishandling of lithic debitage was conducted in order to assess the rate and extent of damage to artifacts over time. The results show that the potential for misinterpretation of edge damage as use-wear as well as the destruction of blood and other chemical residues exists. New options for the storage and handling of lithic collections are explored, with particular attention paid to the preservation of artifact attributes of interest to lithic analysts.

Sisk, Matthew (Stony Brook University), Guy Cross (Terrascan Geophysics, Vancouver) and Suzanne Villeneuve (Simon Fraser University)

[133] *Methodological advances in recording housepit stratigraphy: Using GIS to integrate disparate data*

The complex occupation history of housepits has been a long standing issue in the Mid-Fraser region and has received little methodological attention. Work on the South Terrace of Keatley Creek begins to combine systematic micromorphological sampling, extrapolation of micromorphological information using remotely sensed data, and integration of this information with detailed artifact plotting into a spatial database to assist in reconstructing the depositional histories of these structures. GIS work at the site is also developing a method for digitizing old excavation data into a modern spatial database encompassing the entire site grid. Results will help to facilitate comparative analysis.

Sisk, Matthew [133] see Spafford, Jim

Sistrunk, Hannah, Doug Smit (George Washington University) and Julio Mena (Pontificia Universidad Católica del Ecuador)

[237] *Dónde están los caminos?: Identifying Inca Roads in Northern Ecuador*

In the Inka road system, sections of road often incorporated pre-Inka routes or have been continuously used since Inka times, making cultural identification and original construction difficult. In the region of the Pambamarca fortress complex in Northern Ecuador, our research focuses on regional survey and mapping of the roadways' features in order to develop a systematic methodological approach to determining age and cultural affiliation. Because the studied sections often lack roadside structures such as tampus, we utilize alternative data including a comparison of road construction techniques, ethnographic sources, and the contextualization of the road's trajectory in relation to regional sites.

Sitchon, Myra [145] see Brownlee, Kevin

Skibo, James (Illinois State University), Eric Drake (USDA/Hiawatha National Forest), Fernanda Neubauer (Federal University of Rio Gande do Sul) and Michael Schaefer (Illinois State University)

[30] *Late Archaic and Woodland lithic resource selection and internal site structure: A view from the south shore of Lake Superior*

Archaeological investigations of subsistence and mobility patterns during the Late Archaic and Woodland periods in Michigan's Upper Peninsula are plagued by issues of poor preservation and a predominance of lithic scatters lacking diagnostic artifact types. Consequently, the development of archaeological methods designed to unlock the palimpsest of activity areas and occupational episodes that form these sites is sorely needed. Drawing from recent excavations of sites located on Grand Island, Michigan, this paper will demonstrate how chronological trends in local lithic raw material use combined

with block excavations, piece-plotting techniques, and GIS applications can facilitate the investigation of internal site structure.

Skinner, Anne R. [205] see *Blackwell, Bonnie A. B.*

Slack, Michael (University of Sydney)

[252] *Between the Desert and the Gulf: ecological models of human behaviour in northern Australia*

This paper discusses the nature of human responses to environmental change in northern Australia. Aboriginal occupation spans 40,000 years and all the major climatic changes that have occurred since the initial human settlement of Australia. Significant behavioural changes are observable in the archaeological record during different climatic periods. These include alterations to diet breadth, foraging ranges and mobility strategies. Specifically the flaked stone record includes trends towards both technological conservatism and expediency during periods of increased aridity, and the development of new technologies, use of varied raw materials and reduction strategies during periods of enhanced rainfall.

Slater, Greg [86] see *Gregg, Michael W.*

Slessman, Scott [308] see *Kennedy, John D.*

Slim, Barbara (Amec Earth and Environmental) and Gyles Iannone

[234] *Investigations in the Royal Residential Compound at the ancient Maya Center of Minanha, Belize*

This paper presents the results of five years (2001-2005) of investigations in Minanha's Late Classic royal residential compound. These excavations have provided key insights into the character of ancient Maya royal courts and, in particular, the qualities of the ruler's inner sanctum. Research in the royal residential compound has also been very informative with respect to documenting the changing character of rulership at Minanha.

Sliva, Jane (Desert Archaeology, Inc.) and Sarah Herr (Desert Archaeology, Inc.)

[45] *Refocusing at the Frontier: A New Perspective on Basketmaker Boundaries*

Mutually exclusive spatial distributions of earlier (400 – 1 BC) Basketmaker styles distributions in Arizona, southern Utah, southwest Colorado, and northeast New Mexico share a common frontier along the Mogollon Rim, extending north to Black Mesa and south to the Tucson Basin. Possible explanations for the observed patterns include the Mogollon Rim as a natural frontier between northern and southern populations, with the sharing of both design concepts and material goods concentrated along this border and the presence of plentiful high-quality cherts making it a natural production and distribution locus for preforms and points.

Sljivar, Dusan [272] see *Radivojevic, Miljana*

Sload, Rebecca

[280] *What Makes a Tunnel a Cave? Evidence from under the Pyramid of the Sun, Teotihuacan, Mexico*

Multiple lines of evidence indicate that the Teotihuacanos created a cave under the Pyramid of the Sun that was imbued from conception with Mesoamerican cave cultural meaning. This argument continues a discussion that has moved from considering the cave a natural feature, to recognizing it as a man-made extraction tunnel lacking further a priori significance, to now viewing it as created replete with ritual and symbolic meaning. Lines of evidence considered are spatial, radiocarbon dating, ceramic, and comparative, both to other tunnels at Teotihuacan and to intentionally created underground space elsewhere in Mesoamerica.

Slobodin, Sergei (Lab of History and Archaeology)

[245] *Late Pleistocene and Early Holocene Cultures of Beringia: the General and the Specific*

New data on archaeological cultures of Northeast Asia and Alaska yields commonalities and differences. Of these cultural complexes/traditions, some are known only from Northeast Asia; others from Alaska; still others are found throughout Beringia. Common to both areas are the Non-microblade tradition and Beringian Microblade tradition. During Early Holocene, Sumnagin culture spread across Northeast Asia, later appearing in Alaska's Late Tundra tradition. Sumnagin and Beringian cultures combine in the Aleutian Islands. Research shows that Late Pleistocene/Early Holocene Beringia was a special development zone for American and Siberian cultures. The origins of some of these cultures are not entirely clear.

Slobodina, Natasha [275] see Reuther, Joshua D.

Slovak, Nicole

[274] *Fisherfolk and Farmers? Carbon and Nitrogen Isotope Evidence from Middle Horizon Ancón, Peru*

Carbon and nitrogen isotope results from Middle Horizon individuals at the site of Ancón, Peru indicate that site inhabitants increasingly relied on C4 foods over time despite easy access to marine resources. These results suggest that ancient Ancóneros either had access to more fertile land up valley where maize could be cultivated successfully or that they engaged in intense trade relationships with their valley neighbors. A third possibility, which will be elucidated more fully in this paper, is that increased maize consumption at Ancón during the Middle Horizon resulted from Wari influence in the region.

[274] Chair

Small, David (Lehigh University)

[135] *Looking at Social Change in a Data-Rich Context*

Archaeologists have seldom used the data-rich contexts of the Classical world to analyze social change. In this study I look at social change in the ancient Greek city of Priene from an archaeological perspective. The results of this type of analysis add insight into our understanding of the correlations between material culture and social change (with specific reference to issues of corporate or networking social strategies), plus the use of agency and heterarchy in our understanding of past structural evolution. These observations will be applied to studies of social change in other ancient cultures.

Smallwood, Ashley (Center for the Study of the First Americans Texas A&M University), Albert C. Goodyear (University of South Carolina) and D. Shane Miller (University of Arizona)

[42] *A Spatial Analysis of Biface Reduction at the Topper Site, South Carolina*

The Topper Site in Allendale County, South Carolina is a quarry-related site that contains buried Clovis deposits. Included in the Clovis artifact assemblage are bifaces representing a reduction sequence from material procurement to preform manufacture. This paper provides a brief technological analysis of biface manufacture at Topper. Multiple metric attributes are then applied to an intra-site spatial analysis using a sample of 132 m² from the 2005-2007 field seasons. This analysis identifies spatial patterns in distributions associated with biface reduction. With a detailed technological analysis of Topper, comparisons with other Clovis quarry-related sites and their technological organization can be pursued.

Smiarowski, Konrad (Graduate School, University Center CUNY)

[246] *Seal Subsistence in Norse Greenland*

Zooarchaeological data from several Norse sites in Greenland reveal that seals were one of the most important sources of subsistence for the people living in Eastern and Western settlements. Seal species hunted show varying biogeography and behavior and archaeofauna from the Norse sites reflects settlers' economic organization, technology and hunting strategies. Something limited Norse hunters' access to harbor seals (*Phoca vitulina*) after 1250 AD in several parts of the Eastern, but not in the Western Settlement

area. An explanation seems to be climate change and a transition to modern conditions of increased summer drift ice, correlating well with climate data.

Smit, Doug [237] see *Sistrunk, Hannah*

Smith, Adam (University of Chicago) [229] *Discussant*

Smith, Cameron [133] see *Fox, Michael R.*

Smith, Claire (Flinders University) [151] *Discussant*

Smith, Colin (Max Planck Institute for Evolutionary Anthropology), Holley Martlew (The Holley Martlew Archaeological Foundation), Michael Richards (Max Planck Institute for Evolutionary Anthropology), Olaf Nehlich (Max Planck Institute for Evolutionary Anthropology) and Vaughan Grimes (Max Planck Institute for Evolutionary Anthropology)

[309] *A multi-isotopic approach to mobility and diet in Minoan Crete*

We have been using isotopic analysis of carbon, nitrogen, sulphur and strontium from human and animal remains to investigate migrations, movements and life ways of people in Minoan Crete. The Greek Island of Crete provides an ideal setting to test a multi-isotopic approach as it is a limited and bounded area of diverse geology and environment that can be characterized with stable and radiogenic isotopes. Crete is also an area where migrations have often been postulated to explain changes in the archaeological record during the Bronze Age Minoan period.

Smith, David [223] see *Snow, Meradeth; [256]* see *Gonzalez-Oliver, Angelica*

Smith, David Glenn [223] see *Schroeder, Kari B.*

Smith, Donald (Panamerican Consultants, Inc.), Frank Schieppati (Panamerican Consultants, Inc.) and Mark Steinback (Panamerican Consultants, Inc.)

[281] *Nineteenth Century Medicine in Western New York: Results of Panamerican Consultants' Excavations at the First Niagara bank project site in Lewiston, New York*

The paper summarizes the results of Panamerican Consultants' investigations at the First Niagara Bank site in Lewiston, New York. The site comprised a nineteenth-century house that was built by a physician and subsequently owned by other doctors. A filled privy and a small building constructed as a doctor's office were also present. Numerous bottles labeled "Dr. Frost's Pain Relief" were found in these features, suggesting one of the site's owners was involved in the manufacture or distribution of medicinal elixir, a task usually limited to druggists. This sheds light on the complexities of medicine distribution on the historical Niagara Frontier.

Smith, Geoffrey

[120] *Across the High Country: Pre-Archaic Lithic Procurement Patterns in Northwest Nevada*

Current models of Pre-Archaic adaptation in the Great Basin hold that early-period foragers were "highly mobile", traversing large territories to procure critical resources. Such models are based in part on geochemical sourcing studies. This paper presents the results of XRF analysis of Pre-Archaic projectile points from several archaeological sites in northwest Nevada. These data provide an approximation of the foraging ranges of early groups, which are compared with those approximated by XRF analysis of later Archaic projectile points from the region. The results permit considerations of how prehistoric mobility changed across time in northwest Nevada.

Smith, George (Southeast Archeological Center) [151] *Chair [151] Co-Organizer [25] Co-Organizer*

Smith, Grant and Sarah Morgan (Western Cultural Resource Management, Inc.)

[46] *Revisiting the Dragoon Complex: Investigations at Six Sites in Texas Canyon, Arizona*
Recent investigations at six sites in the Texas Canyon region of southeastern Arizona provide new data on the Dragoon complex, one of the more poorly known southwestern cultural groups. Excavation data including features, material culture, pollen and macrobotanical samples, and radiocarbon assays are presented, and implications of these data are explored. The features include middens, extramural rock piles, ovens, pits, and human burials. The material culture descriptions include ceramic, lithic artifact, faunal bone, and shell remains. The data are compared with previous investigations to address larger issues of Dragoon cultural identity, settlement, and subsistence.

Smith, Jacob [156] see *Lundblad, Steven P.*

Smith, Jennifer (Washington University)

[303] *Variation in resource availability and landscape use during the Pleistocene in the Western Desert, Egypt*

Geoarchaeological survey throughout oasis depressions, Libyan Escarpment slopes, and the Libyan Plateau with the Dakhleh Oasis Project, the Kharga Oasis Prehistory Project, and the Abydos Survey for Paleolithic Sites has indicated that a wide range of geomorphic settings were utilized by Pleistocene inhabitants of the region. While taphonomic and geochronological constraints impede a detailed understanding of landscape use through time, changes in landscape and in resource availability through time can be reconstructed using sedimentological and geomorphic archives and provide a context for occupation of the region at different times.

Smith, Karen (Monticello), Fraser Neiman (Monticello) and Jillian Galle (Monticello)

[124] *Building a Continuous Archaeological Chronology to Study Early-Modern Atlantic Slavery*

The Digital Archaeological Archive of Comparative Slavery (DAACS) offers researchers internet access to data from scores of domestic sites in the Chesapeake, South Carolina and the Caribbean dating from the 18th and 19th centuries. Making the most of the analytical possibilities requires building a single, continuous archaeological chronology, a task we undertake here using correspondence analysis of ceramic type frequencies. We evaluate the resulting sequence using mean ceramics dates and frequency seriation. The results document the geographical scales over which styles were shared and the change in rates at which types replaced one another.

Smith, Karen Y. [93] see *Stephenson, Keith*

Smith, Michael (Arizona State University)

[56] *Ancient Cities: Do They Hold Lessons for the Modern World?*

Archaeologists document variation in urban form and dynamics, illustrating alternative ways for leaders to organize a city, and for residents to use a city. Archaeologists have unique data on long-term trajectories of urban development and decline, and a broad perspective on the social and environmental contexts of urbanization. Our data are relevant to contemporary discussions of sustainability, planning, and other urban issues. To achieve broader impact, however, archaeologists must do a better job of communicating with two key audiences: the non-archaeological scholarly community, and the general public. I review these issues and highlight Jeremy Sabloff's contributions.

[14] Discussant

Smith, Nicholas [172] see *McCutcheon, Patrick T.*

Smith, Nicole [275] see *Mackie, Quentin*

Smith, Ross (North Pacific Fish I.D.), Catherine Wilson-Skogen (Oregon Health and Science University, Bone Mineral Unit), Shelia Orwell (Oregon Health and Science University, Bone Mineral Unit) and Virginia Butler (Portland State University, Department of Anthropology)

[230] *Evaluating the Effects of Bone Density on Prehistoric Pacific Cod and Halibut Taxonomic Abundance and Body Part Representation*

Characterizing prehistoric human subsistence strategies and mobility patterns from archaeofaunal assemblages requires differentiating the effects of human behavior from natural taphonomic processes. Previous studies have shown that bone density may contribute to taxonomic and element representation in archaeofaunal assemblages. Bone density measurements taken from contemporary Pacific Cod (*Gadus macrocephalus*) and Pacific Halibut (*Hippoglossus stenolepis*) skeletons reveal differences between taxa and elements from different body regions. When combined with existing salmon bone density measurements these data will allow the identification of density-mediated destruction in fish faunal assemblages along the North Pacific rim.

Smith, Ross [194] see Hoffman, Brian W.

Smith, Scott [200] see Masucci, Maria A.

Smith, Sheli O [70] see Angel, Julie R.

Smyth, Michael (Rollins College)

[203] *Preclassic Patterns of Complexity at Xcoch, Yucatan, Mexico*

Xcoch is a large Maya center in the Puuc region built around a deep water cave. Settlement radiates from a massive, multi-level acropolis with a gigantic pyramid and platform adjacent to a long plaza, numerous pyramid quadrangles in the Megalithic style, E-Group complexes, and widespread Preclassic surface pottery. The cave contains early water jars, including quantities of Yotolin Pattern Burnished dated to the early Middle Preclassic (~800-700 BC). A series of aguadas articulate with a long linear feature (canal?) suggesting some form of early water management. This work is addressing the origins of complexity in this important Maya region.

Snarskis, Michael (C/o Museo)

[59] *New Evidence for Mesoamerica-Costa Rica Contacts: Usulután Effigy Vessels and Figurines Recovered in Context*

Several of the first archaeologists to work in Costa Rica (Lothrop, Baudez, Coe) saw the NW part of the country, Guanacaste-Nicoya, as participating in Mesoamerican belief systems, iconography and trade networks, some even postulating it as the southernmost frontier of Mesoamerica. Succeeding generations (Lange, and especially Hoopes) instead included it as part of the Chibcha-affiliated cultures from northern South America. Recent scientifically excavated large Usulután effigy vessels and figurines in a Culebra Bay cemetery show Mesoamerican contacts, probably sea-going, around 2000 years ago, and the iconography of ceramic decoration suggests a persistent Mesoamerican influence until Spanish arrival.

Snow, David (Cross-Cultural Research Systems)

[260] *The Southern Athapaskan Dilemma: Some Thoughts on the Prehistoric Apache Presence*

"Apache" usually provokes an image of small, widely dispersed, highly mobile hunter-gatherer "bands" whose fluid and tense, often aggressive relations with their historic Pueblo and other neighbors, has a tendency to be projected into the prehistoric past. Unfortunately, the "proto-Southern Athapaskan" presence in the archeological record remains, for the most part, invisible, and their pre-contact numbers and timing of their "arrival" are matters of considerable dispute. I argue here for substantial numbers of "proto-Apachean" people in and adjacent to the Southwest by the 14th century, if not considerably earlier.

Snow, Dean (Pennsylvania State University) [78] *Discussant*

Snow, Meradeth, David Smith (UC Davis) and Kathy Durand (ENMU)

[223] *Genetic Analysis of the Tommy and Mine Canyon Sites in Relation to the Greater Southwest and Mexico*

Ancient DNA analysis on 34 individuals from the Tommy Site (Pueblo I/II), and 16 individuals from the Mine Canyon Site (Pueblo III), yielded mitochondrial DNA sequence data. Both sites are Chacoan small houses located near Farmington, New Mexico. Haplotype networks were constructed using the results, analyzing relationships between the sites and greater southwest populations. The second hyper-variable region was sequenced in the haplogroup A Mine Canyon samples that had mutational similarities with modern Zuni sequences. Y-chromosome analysis was also undertaken, and the preliminary results analyzed.

Snyder, David [207] see Manson, Joni L.

Sobel, Elizabeth (Missouri State University) and Christopher Cotter (Missouri State University)

[142] *The Evolving Role of Long Island, WA, in Chinookan Identity and Culture*

This study uses archaeological, archival, and oral interview data to examine the role of Long Island, Washington, among Chinookan people from precontact through modern times. These data indicate that Long Island has remained significant in Chinookan identity, society, and culture. However, the basis of this significance has shifted over time; while the Island's immediate economic importance has diminished, its political importance has increased. Grounded in theoretical discussions of Native identity, social memory, and sacred geography, these conclusions highlight the critical link between continuity and change in Native cultural persistence.

Soderberg, John (University of Minnesota)

[296] *Animal Management and Colonial Encounters in Medieval Ireland*

In recent years, identity has become an increasingly prevalent concern among zooarchaeologists. It has become clear that animals are more than just nutrient packages and that human interaction with animals extends far beyond strategies of maximization. Humans use animals to define themselves, others, and the Other. What remains less clear, however, is how these cognitive perspectives on human/animal interaction impact our understanding of herd management and the pragmatics of fostering herd reproduction in a particular environment. This paper takes Ireland after the Norman invasion (12th century) as a case study for the roles animal management plays in colonial encounters.

Soderland, Hilary (Buchmann Faculty of Law, Tel Aviv University)

[25] *The Lens of Law: Legal Regulation, Heritage Valuation, and Historical Representation in United States archaeology*

The law provides a lens—an index of refraction and reflection—through which archaeology can be examined in historical and contemporary contexts. From the initial intersection of archaeology and law in 1906 to recent codifications, law has developed alongside the discipline, influencing the balance of power that determines authority, authenticity, and legitimacy over the past. Exploring the ways through which archaeology has come to be defined and redefined in, and by, legal classification facilitates an understanding not only of how value is ascribed but also of the myriad components that constitute our contemporary understanding of archaeological heritage.

Soffer, Olga (University of Illinois)

[303] *Morphing Icons And Paleolithic Lives*

This paper documents how we often imagine Paleolithic and Paleoindian life through well worn visual tropes. I focus on the "life history" of Fremiet's 1850 bronze sculpture of a gladiator wrestling a bear as it morphs through time and space into ubiquitous depictions of brave Ice Age and indigenous hunters in the studios of such influential popular artists as Knight, Burian, and Schouten. The cultural power of these iconic images is such that they easily override evidence to the contradictory in favor of such satisfying scenarios as Clovis hunters dispatching giant bears or male "Hobbits" bringing home rodential "bacon".

Solari, Amara (Binghamton University) and Gerardo Aldana (University of California, Santa Barbara)

[257] *From Chak Can to Gaspar Antonio Xiu: Literary Forms and Secret Knowledge in Maya courtly communities*

While scholars have long recognized the intellectual and cultural prominence of Classic period non-royal elites, we have gained little insight into how they specifically manipulated political discourse and knowledge production. In this paper, we build upon Marc Zender's recent epigraphic elucidation of non-royal elites by examining their contributions to the continuities evidenced in Maya cosmogonic narratives and access-restricting riddles. We expand the analytical lens by considering the narrative structure of several inscriptions from Classic period Palenque and their resonance with late Postclassic Yukatek traditions as represented in transcribed colonial texts, such as the Chilam Balam of Chumayel.

Solis Ciriaco, Reyna Beatriz [74] see Melgar, Emiliano R.

Somers, Lewis [81] see Clay, R Berle; **[54]** see Hargrave, Michael L.

Sommer, Sebastian C. [54] see Fassbinder, Jorg W.E.

Sorensen, Kathryn and Scott L. Fedick (University of California, Riverside)

[144] *The Possible Conceptual Basis of Settlement Boundary Definition at the Ancient Maya Site of T'isil*

Mapping at the Late Preclassic/Early Classic Maya site of T'isil in northern Quintana Roo, Mexico, has revealed a settlement density that is among the highest in the Maya Lowlands. While including a total area of less than two square kilometers, the settlement density approaches 900 structures per square kilometer. Boundary definition at the site is more distinct than usual, and seems to be bounded by a cosmogram with cenotes (karstic sinkholes) marking the center and four corners of the site. One of these corner cenotes appears to be an artificially constructed feature.

Soressi, Marie [154] see McPherron, Shannon P.

Sorrell, Daniel (EcoPlan Associates, Inc.) and Bruce G. Phillips (EcoPlan Associates, Inc.)

[111] *Environmental Reconstructions at the Ash Creek Site near Payson, Arizona*

Data recovery efforts at the Ash Creek site near Payson, Arizona, revealed the presence of a suite of archaeological features ranging in time from approximately 1,500 B.C. to the Historic period. An environmental reconstruction reveals that geomorphological and hydrological processes extensively shaped the character of the landscape during this time span, and may have created a persistent water source. Significantly, preliminary site interpretations developed prior to the landscape reconstruction appear likely to be in error. The geochronology of the Ash Creek site from the Archaic period through the Historic period is presented in concert with other data, including the results of palynological and phytolith analyses, as an environmental context for considering and plausibly interpreting the archaeological remains at this small, but complex multicomponent site.

Sosna, Daniel (University of West Bohemia, Czech Republic), Patrik Galeta (University of West Bohemia) and Sládek Vladimír (University of West Bohemia)

[85] *Looting in Early Bronze Age Unetice Cemeteries*

Early Bronze Age Unetice (ca. 2200-1700 B.C.) cemeteries in the Czech Republic are frequently disturbed. The disturbances have been viewed as results of prehistoric looting focused on metal artifacts. To test the looting hypothesis we focus on three large Unetice cemeteries and approach the issue from the archaeological and bioarchaeological point of view. We concentrate on the relationship between the burial disturbances and various kinds of artifacts, skeletal preservation, corrosive stains on skeletons, and stratigraphy. Other processes that might have been responsible for the disturbances are analyzed and their contribution to the final pattern is discussed.

Spafford, Jim (Archaeology Branch, Ministry of Tourism, Sport and the Arts), Matthew Sisk (StonyBrook University), Suzanne Villeneuve (Simon Fraser University) and Tanya McMaster (Simon Fraser University)

[133] *Reconstructing regional settlement patterns in the Mid-Fraser Canyon*

Current debates concerning the causes of complexity in the Mid-Fraser region of British Columbia call into question the chronology of occupation at Keatley Creek, and draw attention to the need for a broader understanding of the occupation history of pithouse village sites. Project goals include refining our understanding of the timing of the emergence of aggregated villages and changes or shifts in population densities of the region. The initial phase of this work involves preliminary modeling of the settlement pattern of the region in terms of site size, location, and characteristics of the surrounding landscape.

Sparks, Shane [105] see Cooper, Jason B.

Speakman, Robert (Smithsonian Museum Conservation Institute), Michael Glascock (University of Missouri), Vladimir Popov (Russian Academy of Sciences) and Yaroslav Kuzmin (Russian Academy of Sciences)

[245] *Obsidian Source Studies in Northeast Asia: Recent Research on the Kamchatka Peninsula*

Although much research has focused on how and when some of the first humans entered North America, clear-cut evidence for late Pleistocene and early Holocene long-distance movement of people between northeast Asia and northwestern North America remains elusive. Chemical sourcing studies of obsidian—a volcanic glass widely used by prehistoric people to manufacture tools—may ultimately provide the evidence necessary to document the movement of people between these regions. Here we provide an overview of recent obsidian source studies in northeast Russia with a special focus on data generated for the Ushki Lake (and other) sites on the Kamchatka Peninsula.

Speakman, Robert [275] see Reuther, Joshua D.

Speakman, Robert J [167] see Pohl, Christie M

Speakman, Robert J. [51] see Inanez, Javier G.; [87] see Little, Nicole C.; [241] see Phillips, Stephen C.; [241] see Watson, Judy

Speal, C (Pennsylvania State University)

[267] *Beyond Belize: Economic Geography through Comparative Lithic Data*

In order to address questions surrounding the nature of ancient Maya economic organization, lithicists working in the area need to develop analytical approaches better suited to the study of complex economies. This paper examines some baseline measures for use in comparing the production of siliceous stone tools, both formal and expedient, at a number of different scales. It emphasizes the need for standardization of a few basic analytical statistics for comparative purposes, an appreciation of substitutability of the various lithic materials and technologies found in Mesoamerica through integrated analyses, and implementation of lithic-oriented research in the Classic Maya core regions.

Speller, Camilla (Archaeology Department, Simon Fraser University), Al Mackie (British Columbia Archaeology Branch), Dongya Yang (Simon Fraser University) and Kjerstin Mackie (Royal BC Museum)

[256] *Molecular Analysis of Kwäday Dän Ts'íñchi Artifacts*

DNA analysis was performed on a garment and sewn pouch associated with the Kwäday Dän Ts'íñchi remains discovered on a glacier in Northwestern British Columbia. DNA was successfully extracted from fur and sinew from a robe and pouch dating to at least 300BP. Several animal species were identified, including arctic ground squirrel and American beaver. The DNA data are useful for understanding how the textiles were constructed and repaired, including species identities for both pelts and sinew. The DNA evidence may also reveal valuable information on the geographic origins of the animals, providing insights on ancient hunting or trading practices.

[256] *Co-Organizer*

Speller, Camilla [230] *see Cannon, Aubrey*; [256] *see Yang, Dongya*

Spenard, Jon (University of California, Riverside)

[314] *Gift-Gifting, Mimesis, and Caves: New Perspectives on Ancient Maya Cave Ritual Behavior and Artifact Assemblages*

The concept of mimesis can be utilized to understand ancient Maya cave ritual behavior and the associated artifact assemblages. This paper proposes that cave ritual was part of an ancient gift-giving economy between the ancient Maya and their gods, and that mimesis played a vital role in these ceremonies. Data collected from the caves in the San Francisco hills near the Late Classic period site of Cancun, Petén, Guatemala will be used in the discussion.

[314] *Chair*

Spence, Michael (University of Western Ontario), Christine D. White (University of Western Ontario) and Fred J. Longstaffe (University of Western Ontario)

[277] *The Human Skeletons of Cerro Portezuelo*

In the 1954-57 archaeological investigations at Cerro Portezuelo, Mexico, some 64 burial features were excavated, most of them dating to the Epiclassic and Early Postclassic periods. However, only about 20% of these features (MNI=22) are represented in the skeletal collections from the site. This series has been studied and 18 samples were taken from 14 individuals for oxygen-isotope analysis. The oxygen-isotope data will give some indication of the inter-regional movements of the site's inhabitants.

Spence, Michael [134] *see White, Christine D.*; [180] *see Pereira, Gregory*

Spencer, Kaylee (University of Wisconsin-River Falls)

[310] *Revisiting the Portraits of Palenque*

This study examines Maya portraiture at Palenque during the Classic period. Using the corpus of imagery from the site, I propose that portraits communicated information about the identity of the sitter through the representation of the face and head. I argue that when picturing the same person, sculptors rendered facial features with remarkable consistency. The representation of features allowed the designers of visual programs to make specific claims about the identity of sitters. I advocate that portraits communicate such claims, while simultaneously reflecting and shaping the fragile political environment during this time period.

Spensley, Ellen (Boston University, Journal of Field Archaeology)

[61] *Middens at the Microscale: Micromorphology of Ancient Maya Trash Deposits*

Micromorphology, the study of structurally intact sediments or soils, has been used to investigate formation processes of various kinds of archaeological deposits at an extremely fine-grained level. In this paper, I present the results of a study of midden deposits from the Maya sites of Motul de San José and Trinidad de Nosotros in the Petén Department of Guatemala. Standard archaeological investigation suggests that these middens resulted from a variety of activities including feasting and general domestic disposal. Characteristics visible at the microscale also suggest differences in formation processes and composition, which in turn may be correlated to cultural phenomena.

Spensley, Ellen [233] *see Harrison-Buck, Eleanor*

Spielmann, Katherine (Arizona State University), John Briggs (Arizona State University), Melissa Kruse (Arizona State University) and Sharon Hall (Arizona State University)

[289] *Legacies on the Landscape: The Enduring Effects of Long-Term Human-Ecosystem Interactions*

The Legacies project is an on-going collaboration among archaeology and ecology faculty, graduate, and undergraduate students at Arizona State University. Together we are investigating the long-term legacies of a relatively restricted period of dry farming from the

late 1200s to the late 1300s on the semiarid landscape of Perry Mesa, Agua Fria National Monument. Archaeological survey and mapping have documented a subtly but extensively modified agricultural landscape on the mesa. In this paper we document the anthropogenic legacies of farming in the soil properties and herbaceous vegetation on and off agricultural fields.

[289] *Chair*

Spigelman, Matthew (New York University)

[296] *Hunting and Herding in Early and Middle Bronze Age Cyprus*

Faunal evidence from the villages of Early and Middle Bronze Age Cyprus reveal hunting and herding practiced in conjunction with one another for nearly 700 years. This study interprets several faunal collections using models of hunting and herding strategies to reconstruct the motivations behind this mixed faunal economy. These strategies balance the production of meat and secondary products with the increased risk associated with intensification and specialization. The evidence from the Cypriot Bronze Age serves as a case study in the development of a secondary products economy, demonstrating that the "secondary products revolution" need not be deterministically linked with the development of urbanism.

[296] *Chair*

Spivak, Deborah

[310] *How to Get a Head in the Nasca Symbolic System: An Interdisciplinary Approach to Nasca Trophy Heads*

This paper addresses Nasca trophy heads from both archaeological and iconographic viewpoints. Instead of questioning the identity or causes of death of the individuals, I analyze the symbol within the Nasca sphere. My discussion of trophy heads considers their appearance and deliberate preparation, elements that translate into the ceramic iconography. Without attempting to recreate the action of trophy head taking, I unpack the heads' symbolic purpose and suggest new possible meanings for their appearance in the archaeological record. This study will show how the small, independent Nasca chiefdoms interacted with other, like settlements through symbol, thus creating a recognizable culture.

Sponheimer, Matt (University of Colorado), Julia Lee-Thorp (University of Bradford) and Sandi Copeland (UC Boulder)

[35] *Oxygen Isotopes and Landscape Use in Africa*

The last few years have witnessed increasing interest in the use of oxygen isotope ratio data as indicators of landscape use. But despite this interest, there has been relatively little focus on actualistic research in modern populations to serve as a basis for work on archaeological collections. Here, we present data from a suite of modern and fossil animals from southern and East Africa in an attempt to explore the problems and prospects of using oxygen isotopes to trace landscape movements. We also explore the potential utility of laser ablation to investigate landscape use at short time intervals.

Sponheimer, Matt [218] see Copeland, Sandi R.

Spooner, Alecia (University of Washington)

[60] *Lost in the Woods: The challenge of reconstructing past environments from pollen records in a topographically complex region.*

Reconstructing past environments provides context for interpreting the prehistoric record and past behaviors. The Ridley Lake pollen record provides 14,000 years of vegetation and climate history. Combined with other PNW lake sites and compared to wetland sites this record illustrates the challenges of environmental reconstruction in a topographically complex region. While the Ridley Lake record confirms general trends in climate and vegetation change for the region, finer scale changes most applicable to the study of past human behaviors are more difficult to reconstruct. Selecting an appropriate site is crucial for successful joint paleoecological-archaeological studies.

Spores, Ronald [110] see Warinner, Christina

Spradley, Katherine [93] see Herrmann, Nicholas P.

Springer, Chris (Simon Fraser University) and Dana Lepofsky (Simon Fraser University)

[52] *Tracking Identity in a Harrison River Valley Pithouse*

Houses were fundamental to cultural expression among Sto:lo - Coast Salish groups populating the lower Fraser River Watershed and its tributaries in SW British Columbia. The construction and continued maintenance of house structures were non-verbal, material reflections of a household's identity and socioeconomic interests. Excavation of a pithouse in the Harrison River Valley, a tributary of the Fraser, uncovered three occupation periods. This long standing connection to place combined with differing forms and contents of the successive structures represent the material remains for tracking identity and social relations in the traditional territory of the Chehalis people of the Harrison Watershed.

Springer, Chris [133] see White, Carmen

Spurling, Amy (University of Utah)

[214] *Range Creek Fremont Ceramic Sourcing Project*

Preliminary results will be presented for petrographic and scanning electron microprobe analyses of Fremont ceramics from Range Creek Canyon, a drainage in the West Tavaputs Plateau central Utah. The West Tavaputs Fremont adaptations are characterized as lacking a local ceramic tradition (Spangler 2001). Ceramics from Range Creek Canyon can be divided into one of two ceramic assemblages based on mineralogical constituents: (1) basalt clay and temper or, (2) volcanic ash with ostracodes. Petrographic data and elemental analyses of samples from potential clay sources in Range Creek are utilized to determine if and where ceramic raw materials were locally procured.

Stacey, Rebecca (The British Museum), Andrew Middleton (The British Museum), Caroline Cartwright (The British Museum) and Colin McEwan (The British Museum)

[74] *Recent investigations of turquoise mosaics in the British Museum: materials technology and analytical challenges*

The nine Aztec/Mixtec turquoise mosaics in the British Museum collections have recently undergone detailed scientific examination and analysis. The mosaics include masks, animal forms, a helmet, shield and knife. A variety of materials was exploited to create the objects including turquoise, wood, shell, resins, wax, pyrite, malachite, lignite and gold. The paper will focus on the characterisation of these materials drawing attention to some of the analytical challenges involved. New insights into the way the materials were used, both functionally and decoratively, will be presented along with consideration of the practical and technological issues underpinning material selection.

Stackelbeck, Kary (University of Kentucky) and Greg Maggard (University of Kentucky)

[292] *Economic Strategies of Late Pleistocene to Mid-Holocene Populations in the Lower Jequetepeque Valley, Northern Peru*

A central debate in Andean archaeology is the extent to which maritime or agricultural economies were responsible for underwriting early complex societies, particularly along the coast of Peru. Although the nature of this debate shifts with continuing research among numerous Late Preceramic sites, additional insight is gained by examining the lifeways of their Early and Middle Preceramic predecessors. To that end, this paper explores the economic organization of populations of the Late Pleistocene through Mid-Holocene (ca. 13,000-5300 cal yr BP) in the lower Jequetepeque Valley of northern Peru, and the importance of their subsistence strategies for later developments.

Staeck, John (College of DuPage)

[264] *Saints, Chiefs, and Kings: Hierarchy and Hierarchy in Great Moravia*

The florescence of Great Moravia during the 9th century C.E. presents a unique opportunity to examine the interplay between traditional hierarchies and the attempted construction of a new state. Forged in the crucible of Central Europe, Slavic leaders manipulated resources and symbols in a dramatic and ultimately unsuccessful attempt to build a lasting, cohesive

powerbase known today as Great Moravia. Recent excavations at the major center of Bœclav-Pohansko coupled with extant knowledge from the presumed Great Moravian capital of Mikulèice suggest multiple competing patterns in power acquisition and aggrandizement. These patterns are examined and compared.

Stafford, C. (Indiana State University)

[50] *Punctuated Change in Archaic Settlement Strategies in the Central Ohio River Valley*
The appearance of late Middle Archaic shell and rock-filled middens in the central Ohio River valley and adjacent regions marks the establishment of a collector settlement strategy in contrast to the highly mobile hunter-gatherers of the previous early Middle Archaic period. The purpose of this study is to analyze several calibrated radiocarbon databases generated for the region focusing on the apparent sudden appearance of these multi-season base camps. A Bayesian approach (OxCal v4.0) is used to examine the chronological boundary that defines the initiation of this strategy and the punctuated nature of the shift.

Stafford, C. Russell [50] see Scholl, Nathan C.

Stafford, Thomas (Stafford Research, Inc.), Greg McDonald (National Park Service) and Russell Graham (Penn State University)

[224] *Chronologies and Causes for the Late Pleistocene Megafauna Extinction in the New World*

Causes for the late Pleistocene extinction ca. 11,000 rcybp have been debated unsuccessfully for decades. Key explanations lack accurate chronologies to test either hypothesis. We present 200 new c14 dates as evidence that the extinction comprised two events, 11,200-11,400 and 10,800-10,900. The first extinction included non-probosideans, while the second included only mammoths and mastadons. The first extinction predates Clovis, the second is contemporaneous with Clovis. The second extinction event coincides with a hypothesized comet event at the beginning of the Younger Dryas. We conclude that climate change was the key extinction cause, but humans contributed to the proboscidean extinction.

Stafford, Jr., Thomas W. [210] see Johnson, John R.

Stahl, Ann (Binghamton University)

[201] *Blood Cowries: Predation, Wealth & Depositional Practice in Atlantic Era West Africa*
Millions of Indian Ocean cowrie shells imported into West Africa as currency were incorporated into West African practices of divination, adornment & rites of passage as masterfully detailed for Yoruba contexts by Ogundiran (2002 Int'l Jr. of Af Hist Studies). Colonial processes alternately fostered and suppressed the circulation of these socially valuable objects that were bound up in the production of wealth in people (slaves, wives) and goods. This paper builds on Ogundiran's work by exploring comparatively depositional practices associated with these socially powerful objects in a variety of settings as an analytical approach to the materiality of colonial processes.

Staley, David [294] see Hanson, Diane K.

Staller, John (Department of Anthropology)

[178] *Reexamining Status and Class during the Late Horizon Period*

Andean ethnohistoric accounts and ethnographic analogues have emphasized the importance of direct access to strategic resources as the economic basis for vertical complementarity. The following analysis suggests that forms of esoteric knowledge and ancestral affiliation, both literal and metaphorical, were central to status and class during the Late Horizon. The data indicate that status and class as rationalized on ideological grounds and through symbolic associations were produced and reproduced on the basis of different criteria than what has generally been presented in the anthropological literature and through definitions of class based upon access to strategic resources.

Stanchly, Norbert (Archaeological Services Inc.)

[234] *Social Zooarchaeology at Minanha, Belize*

The ancient Maya exploited fauna for basic nutritional requirements and as active social imperatives. Through the sharing and exchange of food people actively constituted social meaning. Our understanding of the importance of food in ancient Maya society is enriched via a social zooarchaeology that is fundamentally concerned with the active role played by food as a social agent. Ten years of archaeological research at Minanha, Belize, has produced a diverse faunal assemblage from a variety of social contexts. Through the adoption of a social zooarchaeology, we present preliminary interpretations of the Minanha faunal assemblage.

Stanish, Charles (Cotsen Institute of Archaeology At UCLA) [157] Discussant [263]

Discussant [58] Discussant; [137] see Griffin, Arthur F.; [272] see Schultze, Carol A.

Stanslow, Peter [87] see Wendt, Carl J.

Stark, Jonathan

[125] *Performance Analysis of Preservation Mortar at Wupatki National Monument, Arizona*

Over the past century, inadequate preservation methods and techniques contributed to the degradation of Ancestral Puebloan architecture in the American Southwest, with architecture at Wupatki National Monument being no exception. Preservationists at Wupatki are now concerned with upholding cultural and scientific values by fostering methods and techniques consistent with current preservation philosophy. Subsequently, mortar, a significant component in ruins preservation, must be looked at in terms of compatibility with original fabric. This poster presents data assessing the performance of chemically modified mortar used at Wupatki National Monument when exposed to accelerated environmental conditions such as UV light, temperature, and moisture.

Stark, Miriam (Dept of Anthropology U of HI) and Alexander Morrison (University of Hawai'i)

[141] *Land Use and Settlement through Time in Cambodia's Mekong Delta*

The Mekong delta was a hearth of ancient state formation, and the Lower Mekong Archaeological Project explores interrelated roles of settlement and landscape change ca. 500 B.C. - A.D. 1000. Using a landscape approach permits investigation of why populations settled the upper reaches of the Mekong delta in the last centuries B.C., how geographical factors influenced populations and land use, and how those populations changed their landscape through reorganization into complex polities. Results of the 2003-2005 field seasons are summarized in this paper, which examines dynamic relationships between geographical and social factors that formed the delta's first millennium A.D. landscape.

[290] *Discussant*

Stark, Miriam T. [22] see Krigbaum, John

Starkovich, Britt (University of Arizona)

[69] *Dietary changes during the Aurignacian at Klissoura Cave 1, Peloponnese, Greece*

This paper evaluates changes in the exploitation patterns of faunal remains from the early Upper Paleolithic through Aurignacian levels at Klissoura Cave, a sequence spanning approximately 8,000 years. Dietary changes are viewed in terms of species use, particularly small game exploitation. In other areas of the Mediterranean, by the Upper Paleolithic, a shift to lower-return small game had already begun. I discuss to what extent this is true in peninsular Greece, how much change there is throughout the meter and a half of Aurignacian deposits at Klissoura cave, and if intensification is apparent in any other game-use signatures.

Stawski, Christopher (Michigan State University)

[213] *Modeling Soil Erosion to Map Artifact Distribution in the Patzcuaro Lake Basin, Michoacan, Mexico*

This project models soil erosion using GIS (Geographic Information Systems) analysis in conjunction with the Universal Soil Loss Equation in an effort to help explain artifact density

and create a predictive model in the Pátzcuaro Basin, Michoacán, Mexico. This project utilizes GIS as an analytical and statistical tool, and not just for the mere purpose of mapping and display. The model examines artifact density for a survey done at the Prehispanic Tarascan state capital of Tzintzuntzan, and combines this spatial data with a soil erosion model to analyze the relationship that soil erosion has on archaeological surveys and the landscape.

Steadman, Dawnie W. [99] see Hopwood, David E.

Steadman, Lee

[244] *Early and Middle Formative Ceramics from the 2003-2005 Excavations*
Excavations by TAP have yielded a rich sample of Early, Middle, and Late Chiripa ceramics. Analysis of these ceramics has made possible a systematic and comprehensive description of the Chiripa ceramic assemblage, the first by TAP from outside the site of Chiripa itself. Comparisons to the ceramics from Chiripa show varied patterns of occupation and ceremonial activity across the Taraco Peninsula. At one of the excavated sites, the physical separation of the Middle Formative ceremonial sector, with its associated architecture, from the domestic occupation also provides a unique methodological opportunity, not always possible where middens are commingled, to isolate and compare the ceramic assemblages from the two different activity areas.

Steadman, Lee [244] see Miller, Melanie J

Steele, James [29] see Grove, Matt

Steele, Teresa (UC Davis), Hannes Finke (Max Plank Institute for Evolutionary Anthropology), Jean-Jacques Hublin (Max Plank Institute for Evolutionary Anthropology), Laura Niven (Max Plank Institute for Evolutionary Anthropology) and Tim Gernat (Max Plank Institute for Evolutionary Anthropology)

[91] *Virtual skeletons: using a structured light scanner to make a 3-D faunal comparative collection*

When conducting zooarchaeological analyses, researchers need access to comparative skeletons to assist with identifications, but recent comparative collections are not available in many places where fossil analyses occur. Therefore, we are using a Breuckmann triTOS-HE structured light scanner to create a "virtual comparative collection". To operate the scanner and assemble multiples scans of each bone into a single mesh, we used Optocat 4.01. Rotating images of known species and elements can then be brought into the field. Our goal is to produce high quality images for a publicly-available database, which can be accessed and downloaded via a web-based interface.

Steele, Teresa [91] see Niven, Laura

Steelman, Karen [179] see Terry, Martin

Steffen, Anastasia (Valles Caldera National Preserve) and Jeremy Decker (Valles Caldera National Preserve)

[46] *A Myriad Landscape: Current Research on the Valles Caldera National Preserve*
The diverse archaeological, historical, geological, and ethnographic landscapes of the Valles Caldera National Preserve in northern New Mexico provide a challenge for Southwestern archaeologists. The high elevations, abundant obsidian resources, and deep soils combine to form a unique archaeological record. This poster presents current results for research on geochemical analyses of Cerro Toledo and Valles Rhyolite obsidians, geochemical provenance and hydration studies of diagnostic projectile points, and debitage analyses at secondary quarry deposits. We discuss these investigations in the context of potential contributions to regional prehistory and the challenges of implementing a distributional approach in federal cultural resources management.

Steffen, Martina (Royal BC Museum), Daryl Fedje (Parks Canada), Duncan McLaren (University of Victoria) and Richard Hebda (Royal BC Museum)

[172] *Preliminary investigation of limestone solution caves on northern Vancouver Island, British Columbia: paleontological recovery and archaeological potential*

Results of initial investigations into karst caves on northern Vancouver Island, British Columbia, are presented. Test excavation and systematic surface collection at Pellucidar Cave recovered significant paleontological remains including bears (*Ursus arctos* and *Ursus americanus*). Similar research in Southeast Alaska and the Queen Charlotte Islands (Haida Gwaii) has produced late Pleistocene and early Holocene archaeological and paleontological assemblages. On northern Vancouver Island, extensive cave systems in limestones of the Quatsino Formation present interesting new prospects. Continuing research on Vancouver Island will target early Holocene and late Pleistocene deposits for environmental reconstruction and evidence of early human occupation.

Steffian, Amy F. [194] see Saltonstall, Patrick G.

Stehman, Kelly (Arizona University, Flagstaff, AZ)

[299] "It's not Disneyland": Balancing Visitation and Preservation at Natural Bridges National Monument

Armed with cameras, water bottles, and curiosity, visitors pose an immense threat to fragile archaeological resources located within Natural Bridges National Monument. Natural Bridges National Monument implemented the Cultural Resources Site Information Disclosure Policy to comply with federal preservation laws and to mitigate visitor impacts to archaeological sites. This paper presents the results of a pilot study investigating visitor impacts to archaeological sites and examines the effectiveness of the Cultural Resource Site Information Disclosure Policy as a tool for managing cultural resources located within Natural Bridges National Monument.

[299] Co-Organizer

Stein, Gil (University of Chicago) [226] Discussant [296] Discussant

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

[243] *Disentangling Settlement and Subsistence Patterns at Shell Midden Sites*

Shell midden sites are investigated in large-scale surveys that usually focus on temporal and spatial settlement patterns, as well as site-level investigations of subsistence strategies. Here, we present an approach that integrates both of these perspectives by including a consideration of site size, erosion, and accumulation rates along with conventional analyses of dates, spatial patterns, and faunal analyses. We suggest that this approach allows researchers to better address hypotheses about changes in prehistoric lifeways. We use as a case study our work on the San Juan Islands, Washington.

[60] Discussant

Stein, Ninian (University of Massachusetts Boston)

[68] "The English, of the full ripe corn ground, make very good bread": The Adoption of Maize and Related Cultivation Technology By Early European Settlers in Southern New England

As John Winthrop's 1678 treatise attests, the English in Southern New England were early adopters of maize and maize cultivation technology. This paper examines multiple lines of evidence on early English maize utilization, cultivation and symbolic meanings, including historical documents, archaeological evidence and isotopic analyses. Carbon stable isotopic analysis of compound-specific maize leaf wax residues in pond sediment cores is revealing a new line of evidence on early English maize cultivation, results from Blood Pond in Massachusetts are promising. What were the consequences for landscapes, ecosystems, and for neighboring Native American peoples of this sudden increase in maize cultivation?

[68] Chair

Steinbach, Penny (The University of Texas At Austin)

[310] *Reenacting Myth: Why Adults Pretend to Be Baby Birds*

The Temple 21 platform at Palenque depicts five figures interacting ceremonially. In the accompanying texts, the figures are identified, but the ceremony and the actions it entails are not. Fortunately, by comparing the depiction on the platform to other depictions of the same event, it is possible to demonstrate that the figures represented—the ruler, Pakal the Great, two of his heirs, and their priestly attendants—are reenacting a mythic event involving metamorphosis and bloodletting that has no counterpart in Colonial Maya literature and is known only from Classic Maya works of art.

Steinback, Mark [281] see *Smith, Donald*

Steinbrenner, Larry (University of Calgary)

[59] *Chibchan Mesoamerica, or Mesomeric Chibcha?: Drawing the Line in Greater Nicoya*

The archaeological subarea of Greater Nicoya was originally defined as incorporating the "Mesoamericanised" portions of Pacific Nicaragua and Costa Rica's Guanacaste-Nicoya area. Yet while conquistadors described the region as "another Yucatan" and subsequent explorers were eager to treat it as such, recent work suggests that Greater Nicoya is in many ways as "Chibchan" as it is "Mesoamerican". This paper will discuss shifting perspectives on cultural affiliation in Greater Nicoya and the problems created by approaching this area—and Mesoamerica in general—with an "either-or" mindset.

Steinen, Karl (Anthropology/University of West Georgia)

[254] *Mounds, Walls and Water: Understanding Middle Woodland Ceremonial Centers in the Interior Southeast*

In this paper I discuss two Middle Woodland ceremonial centers in the Southeast --- Kolomoki and Fort Center. I will emphasize common structural elements of these two sites and by using ethnographic analogy I will discuss possible symbolic meanings of them. The roles of mounds, earthen walls and water will be emphasized.

Stelle, Lenville (Parkland College)

[71] *Blood of the Ancestors Grotto: Ritual Behavior*

The Blood of the Ancestors Grotto (11SA557) has been interpreted as a rock art site likely associated with female spirituality, healing, and learning. One yet unexplored avenue to a fuller understanding of the art centers on the evidence for repeated social behaviors identifying boundaries between the sacred and the profane and behavioral pathways for correct interaction/contact between the two. Some of these behaviors seem connected to natural rhythms and periodicities. Descriptions of these rituals and their possible ethnographically attested analogues in early historic populations are offered.

[71] *Chair*

Stemp, James [267] see *Aimers, Jim J.*

Stemp, William (Keene State College) and Adam C.J. Menzies (University of Pittsburgh)

[234] *The Organization of Chipped Stone Tool Technology at Minanhá, Belize*

Reduction sequences and spatial analysis for a variety of tool types of both chert and obsidian allow for a more detailed reconstruction of the organization of lithic technology at Minanhá. Based on an analysis of formal tools and productiondebitage, the Maya at this site produced relatively few chert formal tools, relied on simple core reduction to produce primarily chert flakes for expedient use and acquired obsidian prismatic blades from nearly exhausted polyhedral cores. The lithic assemblage at this medium-sized border community was heavily influenced by available stone resources with minimal sub-assemblage variation associated with core/periphery or ceremonial/domestic context types.

[267] *Discussant*

Stephen, Jesse (University of Hawai'i at Manoa), Mark McCoy (San Jose State University) and Michael Graves (University of New Mexico)

[33] *Microanalysis of an agricultural system in Makapala, Hawai'i*

Recent archaeological activity in the windward ahupua'a of Makapala on the island of Hawai'i has revealed sizable tracts of a prehistoric agricultural complex, occupying multiple drainages as well as portions of proximate valley slopes. Our treatment of the complex in this paper examines and addresses 1) aspects of energy investment required to both construct and maintain its agricultural infrastructure; 2) the chronological sequence of terracing and other landform modifications; and finally 3) the potential significance of the Makapala complex to classifying, analyzing, and understanding similar lo'i subsistence systems in Hawai'i and beyond.

Stephenson, Keith (Savannah River Archaeological Research Program) and Karen Y. Smith (Monticello)

[93] *Middle Swift Creek/Weeden Island I Ceremonialism in the Interior Coastal Plain of Georgia*

The Shelly Mound, located on a bluff overlooking the Ocmulgee River, represents the most northerly expression of Weeden Island ceremonialism in the Southeast. The mound contained several centrally located burials and a cache over 50 "killed" vessels on its eastern margin. We briefly describe the archaeological work at Shelly, but our primary aim is to place Shelly in its proper chronological and social context. To accomplish the former, we employ frequency seriation, AMS dating, and inter-site Swift Creek design motif contacts. We also explore connections between Shelly and better-known sites, such as Kolomoki, closer to the Weeden Island heartland.

Steponaitis, Vincas (University of North Carolina) [293] Discussant**Sterling, Sarah, Dennis Lewarch (Suquamish Indian Tribe) and Donald Tatum (Museum of New Mexico)**

[60] *Shoreline changes along the coast Port Angeles Harbor: Archaeological and geomorphologic data from Tse-whit-zen (45CA523)*

Tse-whit-zen, a large precontact village with dates spanning 2700 years, is situated on a series of beaches formed at the base of Ediz Hook, a five and a half kilometer long sandspit sheltering Port Angeles Harbor, Washington. Radiocarbon dates from beach berms and submerged cultural deposits reflect evidence of sea/land level change. Dates for three submerged deposits are coincident with tectonic Event S, which dates to ca 1596-1650 BP. Radiocarbon and sediment chemical analysis indicate periods of diminished population in one of six structures. Data collected from adjacent structures are used further determine whether regional tectonic events influenced site history.

Sterling, Sarah [172] see Gillis, Nichole**Stern, Nicola [270] see Veth, Peter Marius****Sternke, Farina (Department of Archaeology)**

[159] *Stuck Between a Rock and Hard Place: Skill Transmission and Differential Raw Material Use in Mesolithic Ireland*

In Ireland, differential levels of skill were occasionally observed in Mesolithic stone tool assemblages. To-date, this research has only concentrated on assemblages which predominantly derive from the flint-rich north-eastern region of the island. The lithic assemblages excavated from sites located in the South, West and Midlands are often composed of a mixture of raw materials including volcanic rocks, or almost exclusively of a fine-grained limestone. Two excavated assemblages, Ferriter's Cove, Co. Kerry and Derragh, Co. Longford, will serve as case studies for the exploration of the differential use of raw materials during skill transmission in the flint-poor regions of Ireland.

[159] Chair

Stevanovic, Mirjana [276] see Tringham, Ruth

Stevens, Nathan and Richard McElreath (University of California, Davis)

[193] *Technological Transitions and Cultural Evolution in Prehistoric California*

The evolution of culture has long been described in terms of increasing complexity and greater organization, but the details of how these changes played out with respect to technology, rather than society, have been little explored. While differences in complexity between bands, tribes, chiefdoms, or states are relatively straightforward, changes within a hunter-gatherer level of adaptation are less obvious and less archaeologically visible. Evidence from prehistoric California suggests technological change is often incremental and shows regularities that may provide insights into how humans organize labor in the face of increasing population and competition for resources.

Stevenson, Christopher (VA Dept. of Historic Resources) and Peter Mills (University of Hawaii, Hilo)

[156] *A re-examination of volcanic glass hydration dating in Hawaii: a case study from Kahalu`u Habitation Cave, Hawai`i Island*

Conventional hydration dating of Hawaiian volcanic glasses was attempted in the 1980s, but the method was abandoned because of problems measuring the thickness of hydrated surfaces on nearly opaque and relatively mafic glasses. Our attempt at potentially resurrecting hydration dating in Hawaii employs a two-stage process. First we used EDXRF to identify common source materials, and then we employed photoacoustic infrared spectroscopy (PAS) to quantitatively determine the concentrations of molecular (H_2O) and hydroxyl (OH) in glasses. Successful results of a blind study correlating absorption curves with stratigraphic contexts from Kahalu`u Habitation Cave are presented.

Stevenson, Christopher [156] see Mulrooney, Mara A.

Stewart, Brian and Peter Mitchell (University of Oxford)

[149] *Why pots? Thoughts on the adoption of ceramics by southern African foragers and herders*

The study of southern African hunter-gatherer and pastoralist ceramics has been one of Garth Sampson's major interests throughout his career, producing significant contributions in our understanding of their chronology, technology of manufacture and stylistic attribution. Drawing on recent research at the Dunefield Midden campsite in South Africa's Western Cape Province, as well as on work elsewhere in the world, we emphasise here another aspect of these early ceramics, their function, and aim to identify some of the factors that may have promoted the widespread adoption and use of pottery by southern African hunter-gatherers and herders during the past 2000 years.

Stewart, David (East Carolina University)

[93] *The Little Washington Maritime Cultural Landscape Project*

The port of Washington, North Carolina, has been a center of maritime activity since the eighteenth century. Beginning with the naval stores trade in the 1700s, Washington's maritime landscape has developed through phases of shipbuilding, fishing, and recreation. The Program in Maritime Studies at East Carolina University has been exploring the evolution of Washington's maritime landscape for more than a decade. This poster describes this ongoing project and offers interpretations regarding the nature of Washington's maritime cultural landscape.

Stewart, R (Temple University)

[24] *Formation of Hearth Basin Features: Implications for the Interpretation of Paleoindian and Later Archaeological Sites in the Middle Atlantic Region, Eastern United States*

Shallow basin features interpreted as hearths are part of the archaeological record of Paleoindians and later Native American cultures in the Middle Atlantic Region of the Eastern United States. Experiments indicate that the heat generated by surface hearths/fires can alter subsurface deposits resulting in basin-shaped distributions of both fire reddened (oxidized) and dark/carbon colored sediments that could be mistaken for intentionally created pit features. The impact of these observations on site interpretations and regional prehistory are considered.

Stewart, R. Michael [24] see *Sidoroff, Maria-Louise*

Stienmier, J. David [92] see *Chatfield, Melissa*

Stiner, Mary (University of Arizona)

[69] *Hunters of the Initial Upper Paleolithic: Results from Üçaðýzly Cave (Hatay, Turkey)*
New excavations at Üçaðýzly cave have yielded a detailed record of early Upper Paleolithic (eUP) occupations on the Hatay coast of southern Turkey. The predominance of large game and endscrapers, together with the microwear results, indicate that hunting and multiple stages of hide processing were major activities throughout the formation of 11 cultural layers. Extensive de-fleshing of carcasses is suggested in the later eUP by diagonal slicing marks and axial scrapes on upper limb bone shafts. The use of small animals of all sorts stepped up suddenly with the onset of the eUP, in contrast to the local Middle Paleolithic.

Stockdell, Eric [9] see *McGill, Dru*

Stockett, Miranda [97] see *McFarlane, William J.*

Stodder, Ann [20] *Co-Organizer; [134]* see *Buikstra, Jane E.*

Stone, Andrea (Univ of Wisconsin-Milwaukee) [136] *Discussant*

Stone, Tammy (University of Colorado At Denver) [166] *Discussant*

Stoner, Wesley (University of Kentucky)

[279] *Tepango Valley Archaeological Survey 2007: Initial Results*
A 120-km² block of the Tepango Valley was surveyed to elucidate tensions between local and non-local processes of cultural evolution within the Tuxtla Mountains. Initial findings and interpretations are presented here, emphasizing diachronic settlement patterns, compositional ceramic data, and material culture style. These data are compared to previous research within the neighboring Catemaco Valley and at Classic Matacapan, which display strong connections to Teotihuacan. Neither El Picayo nor other Tepango Valley settlements display such connections, providing a local baseline to evaluate the 'Teotihuacan-effect' in the Catemaco Valley, and an example of how neighboring polities reacted.

Storey, Alice (University of Auckland)

[252] *Chicken of the Sea: Migration and Interaction in Prehistoric Oceania*

Starting in the Lapita period, the people of Oceania began to move chickens around the Pacific as part of colonizing and trading voyages. By analyzing the mitochondrial DNA of these commensal animals hypotheses about multiple migrations, interactions and contact with the Americas could be developed. These ideas will be discussed and a picture of prehistory developed by examining this data in the context of other commensal studies.

Storey, Alice [256] see *Matisoo-Smith, Lisa*

Storey, Jennifer

[321] *An Analysis of Unifacial Tools from the Richardson Island site, Haida Gwaii (the Queen Charlotte Islands)*

Excavations at the Richardson Island site in southeastern Haida Gwaii have revealed human activities dating back to 9300 years ago with evidence for changes in tool technologies occurring around 9000 and 5000 years ago. While prior studies have focused on shifts between bifacial and microblade technologies, analysis of the unifacial tool assemblage has been very preliminary. Unifacial tools dominate the overall assemblage and are present throughout the archaeological record at Richardson. Recent analysis of these unifaces investigates manufacturing processes, use-life and technological changes or continuities in order to better understand site activities in relation to fluctuating environmental conditions.

Storey, Rebecca (University of Houston) and Randolph Widmer (University of Houston)**[14] The Tlajinga Barrio: A Distinctive Neighborhood in Teotihuacan**

The Tlajinga barrio is one of the most distinctive in Teotihuacan. It is south and just separated from downtown by a barranca. There is evidence of barrio hierarchy and organization for the main craft activity, ceramics. The excavation of Tlajinga 33 (S3W1) also indicated that this barrio craft specialization was later in Teotihuacan's history. Earlier, the Tlajinga 33 residents were lapidaries in several media, an activity that continued with the ceramics. Many specialized activities at Teotihuacan will only be revealed by excavation. More was going on in Tlajinga than just San Martin Orange ceramics.

Storey, Rebecca [14] see Marquez-Morfin, Lourdes

Stosel, Victoria**[99] Skeletal Paleopathology of Marine Dependent Populations in the Americas**

This presentation examines the relationship between specific diseases that leave signatures on the human skeleton and diet heavily dependent on maritime resources. Evidence of nutritionally related diseases from populations along the west coast of North and South America are analyzed and found to contain a range of conditions including spina bifida occulta, porotic hyperostosis and enamel hypoplasia. Taken together, the dietary and paleopathological information demonstrate that the primarily maritime diets of these populations are lacking essential nutrients necessary to avoid disease.

Stothert, Karen [200] Discussant [37] Discussant

Stovel, Emily (Ripon College)**[92] Using the Web to Promote International Scholarly Dialogue on South American Ceramic Typologies**

This poster details the introduction of a website designed to broker international discussion on South-Central Andean ceramic typologies. The website features a database that includes images and descriptions of ceramic vessels accessible by users anywhere in the world, fully interactive areas for discussion of ceramic stylistic identification and chronological pinpointing, and a GIS-Google Earth geographical locating system. This poster will serve as a first exposure of this project to the archaeological community and hopes to garner comments and advice from conference participants.

Straight, Kirk [158] see Silverstein, Jay E.

Strathe, Cody (University of Alaska Fairbanks) and Maribeth Murray (University of Alaska Fairbanks)**[194] Humans, Seals and Ecosystem Change: 6500 years in the Gulf of Alaska**

This project examines archaeologically deposited harbor seal remains to provide a view of cultural and ecological change at large temporal scales for the Gulf of Alaska region. Harbor seal remains from the Mink Island Archaeological Site have been analyzed for stable carbon and nitrogen isotopes to produce a long-term historical proxy of ecosystem productivity. Preliminary data illustrates patterns of variability in these isotopic signatures from the mid-Holocene to present. Data on seal osteometrics, seal age classes, season of harvest, and processing intensity are currently being examined and correlated with this proxy to understand the relationships of this unique social-ecological system.

Straus, Lawrence (University of New Mexico) and Manuel Gonzalez-Morales (Universidad de Cantabria)**[303] News from the Underground: A Dozen Years of Excavations in El Miron Cave (Cantabria, Spain)**

A dozen seasons of work have been completed in El Miron Cave, the first major Paleolithic & post-Paleolithic site to be excavated in the Cantabrian Cordillera in modern times. The culture-stratigraphic sequence, dated by 62 radiocarbon assays, spans the period between the terminal Mousterian (41,000 BP) through the early Bronze Age (3200 BP). The focus of

this paper will be on the latest developments in the study of dated Magdalenian portable & rock art, structures, artifacts and faunas from this large, strategic site, reporting on results from the international, interdisciplinary research team.

[69] *Discussant*

Strauss, Monica (EDAW, Inc.)

[82] *Unearthing City Cemetery: Archaeological Excavations at Los Angeles' First City-Operated Burial Ground (1863-1890)*

An overlooked and largely untold part of Los Angeles' beginning is the story of City Cemetery. The cemetery was officially moved in the early 20th century. However, recent excavations exposed remnants of 173 burial features, many containing human remains. Research has focused on determining the identities of the remains through a combination of archival research, artifact analysis, osteological studies, and GIS technology. The research provides a better understanding of the role of City Cemetery in mid to late 19th-century Los Angeles, Victorian-era mortuary practices on the West Coast, and patterns of health and socioeconomic status within the cemetery population.

[82] *Chair*

Strawhacker, Colleen (Arizona State University)

[46] *A Spatial Analysis of the Level of Constructedness of the Small Sites around Two Large Pueblos on Perry Mesa, Arizona*

The level of "constructedness" of archaeological sites can provide insight into the amount of planning, labor, and time invested into building structures. Further understanding into the time, labor and planning invested into architecture can allow for inferences to be made on the intensity of surrounding land use and the social importance assigned to each pueblo. This poster will explore and compare the architectural constructedness of small sites (one to eleven rooms) located around the larger pueblos of Pueblo la Plata and Pueblo Pato, which are located within the boundaries of Agua Fria National Monument on Perry Mesa in central Arizona.

Stringer, Michael [234] see McCormick, Carmen A.

Studevent-Hickman, Benjamin (The Oriental Institute, University of Chicago), John Christiansen (Argonne National Laboratory), McGuire Gibson (The Oriental Institute of the University of Chicago) and Tony Wilkinson (Durham University)

[137] *Modeling Bronze Age Southern Mesopotamia: Initial Results*

The Modeling Ancient Settlement Systems Project (MASS) represents a collaboration of the Oriental Institute of the University of Chicago and Argonne National Laboratory. Using the fullest possible range of data available, team members create agent-based simulations of settlements in Bronze Age Mesopotamia. One specific goal of the project is to compare the rise and fall of cities and states in northern and southern Mesopotamia in light of their distinct landscapes. To date, most of our simulations have been run for the north (see the paper by Tate Paulette); this paper presents the initial results of our work on the south.

Suárez, Rafael [265] see Gillam, J. Christopher

Suárez Cruz, Sergio (Instituto Nacional De Antropología E Historia (INAH))

[138] *La presencia Olmeca Xicalanca en Cholula: Una discusión sobre sus restos, su distribución y su cronología.*

Gracias a las fuentes históricas e investigaciones arqueológicas, sabemos que en Cholula, luego del abandono que se dio en la ciudad a finales del Clásico, ésta fue parcialmente ocupada por grupos Olmecas Xicalancas que se asentaron preferentemente sobre las plataformas y entorno inmediato de la Gran Pirámide. Recientes trabajos arqueológicos en el centro histórico, que presumiblemente ocuparon los Tolteca Chichimeca, nos muestran que, contra lo esperado, los vestigios de estructuras y cerámica tradicionalmente asignada a los Olmecas Xicalancas es mayor; lo cual nos hace preguntarnos ¿Quiénes fueron realmente los Olmecas Xicalancas y cuál fue su distribución espacio temporal en Cholula?.

Suárez Cruz, Sergio [138] see Martínez, Silvia

Sugiura, Yoko (Instituto De Investigaciones Antropologicas, UNAM)

[150] *Comal in the history of Mesoamerica: a myth*

Comal has been considered as one of the principal elements of Mesoamerican identity, together with the nixtamalization process of maize and tortilla. Also, these are considered as three mutually corresponding components. In the written documents, the comal is directly related to tortilla; although archaeological evidences indicate that comal is a much more complex phenomenon. In this paper, we discuss how this myth has become so persistent in the culinary history of the Ancient Mexico.

[242] *Discussant*

Sugiyama, Nawa (Harvard University), Alicia Blanco (Instituto Nacional de Antropología e Historia), Bernardo Rodríguez (Instituto de Investigaciones Antropológicas de la UNAM), Fabiola Torres (Instituto de Investigaciones Antropológicas de la UNAM) and Gilberto Pérez (Instituto de Investigaciones Antropológicas de la UNAM)

[180] *Animals of Sacrifice: Interpreting Human-Fauna Interactions from Burial 6 at the Moon Pyramid*

Previous excavations at the Moon Pyramid have uncovered a rich array of faunal offerings that included eagles, mountain lions, wolves, and rattlesnakes. This paper discusses some preliminary analysis of these animals interred in Burial 6, which includes over 48 sacrificed individuals. Analysis of surface modifications and pathological markers demonstrate each animal's interaction with Teotihuacanos, of which some contain unique traits that suggest the individual was in a stressful environment. This perspective brings to question the depth of human-fauna interactions that was required to capture and maintain such a large number of individuals for this offering cache.

Sugiyama, Saburo (Aichi Prefectural University)

[180] *Teotihuacan City Layout as a Cosmogram: Architectural and Measurement-Unit Study from the Moon Pyramid.*

The causal factors behind the genesis of Teotihuacan have been poorly understood, especially in terms of the symbolic meanings implicated by the city's urban layout. Seven overlapping architectural stages discovered at the Moon Pyramid and an ongoing three-dimensional mapping survey of the city's central zone provide precise information on early urban planning, and shed new light on the Teotihuacan measurement-unit study I have undertaken since the early 1980's. This paper describes the calendrically and astronomically significant numbers encoded within the dimensions of the three major monuments at Teotihuacan, and discusses the social and ideological significance of city layout as cosmogram.

[180] *Chair* [180] *Co-Organizer*; [180] *see Fukuhara, Hironori*; [180] *see Sato, Etsuo*; [180] *see López Luján, Leonardo*; [74] *see Filloy, Laura*

Sullivan, Alan (University of Cincinnati)

[154] *By These Scraps Ye Shall Know Him: A. J. Jelinek's Enduring Theoretical and Methodological Contributions to Southwest Archaeology*

Overshadowed by his considerable accomplishments in Paleolithic archaeology are equally profound contributions to Southwest Archaeology that A. J. Jelinek produced during two decades of research with the "scrappy" surface and near-surface phenomena of the American Southwest's eastern hinterlands. In this paper, I discuss the ongoing importance of Jelinek's interdisciplinary approach for understanding the formation histories of thin, undifferentiated archaeological deposits and for establishing the interpretive significance of highly variable artifact assemblages. Among other innovations, his long-term interest in integrating geoarchaeology and sound statistical methodology exemplifies key elements of a research strategy that continues to influence the conduct of Southwest Archaeology.

Sullivan, John [21] *see May, Jared David*

Sullivan, Lauren (University of Massachusetts), Jaime J. Awe (Institute of Archaeology, Belize) and M. Kathryn Brown (University of Texas/Arlington)

[181] *Refining the Cunil Ceramic Complex*

Recent excavations at Cahal Pech have increased the sample of Cunil phase pottery and these new data serve as the basis for refining the Cunil Ceramic Complex of the Belize valley. The type-variety-mode method of analysis utilized in this study provides clearer definitions of the types and varieties identified in this larger sample, and facilitates comparisons with ceramics from other sites and time periods. Results of this new study support the arguments that Cunil ceramics precede those of early facet Jenney Creek occupation chronologically and stratigraphically, and that Cunil pottery is distinct from later Middle Formative assemblages in central Belize.

Sullivan, Lauren [181] see Valdez, Fred

Sullivan, Michael [304] see Wegener, Robert M.

Suluk, Luke [17] see Dawson, Peter C.

Sumner, Alexandra (University of Toronto)

[205] *Technological and Cognitive Features of Middle Stone Age Lithic Core Reduction*
This talk presents research performed on a sample of Middle Stone Age lithic refits from the site of Taramsa Hill, Egypt. The dynamic nature of core reduction is revealed as the sequence of removals is illustrated via a new methodological approach. This new methodology for examining technological and cognitive aspects of early human behaviour includes the development of morphological sequencing graphs to track changes in standard product traits during core exploitation. In addition both photogrammetry and three-dimensional computer applications are used for tracking features of core morphology including the maintenance of upper surface convexity and core volume control. Situated within the current discussion concerning the evolution of early human memory and the onset of modern cognitive capacity, this research identifies features of technological knowledge and working memory exhibited in late Middle Pleistocene lithic core reduction.

Sun, Chengkai [75] see Norton, Christopher

Sundstrom, Linea (Day Star Research) [225] *Discussant*

Sunseri, Charlotte (University of California, Santa Cruz)

[7] *Hunter-gatherer Economic & Land Tenure Systems of Central California*

Prehistoric hunter-gatherers of central California may have initiated and maintained systems of land tenure and exchange in response to similar social and ecological situations. This project integrates archaeological settlement data with results from zooarchaeological, archaeobotanical, lithic, and shell bead analyses to understand regional mobility, territorial organization, and economic exchange patterns in the Middle Period (600 BC-AD 1000) and Middle-Late Transition (AD 100-1250). The development of theoretical approaches to social and ecological motivations for exchange and territoriality can better investigate dynamics of prehistoric life reflected in widespread changes in settlement patterns and technology during these time periods.

Sunseri, Jun (University of California)

[290] *Recursive Landscapes on the Frontier: Nested Scales of Practice in a Spanish Colonial Buffer Settlement*

GIS analysis of cultural landscape creation explores the ways that people's lived experiences accorded, or were in tension with their ascribed social identities on frontiers far from direct enforcement by Spanish Colonial officials. This scale of analysis specifically seeks to investigate the strategies employed by frontier settlers to meet the colonial doctrine of settlement in situations that challenged the practicality of such requirements. Three dimensions of the cultural landscape engaged with, built, and maintained by the colonial settlers of the Rito Colorado Valley are addressed: 1) tactical landscape, 2) engineered landscape, and 3) ritual landscape.

Supernant, Kisha (Department of Anthropology, UBC) and David Schaepe (Stó:lō Research & Resource Management Centre / Department of Anthropology Univer)

[52] *Defining Community through Defense?: An exploration of rock fortifications and identity formation in the Lower Fraser River Canyon, B.C.*

The role and scale of warfare among the Stó:lō (Coast Salish) of the Fraser River is poorly understood from an archaeological perspective. Recent research in the lower Fraser River Canyon sheds light on the importance of rock fortifications as indicators of defensive sites and intergroup conflict. In this poster, we present archaeological data on these defensive sites and features and explore the connection between warfare and the dynamic nature of identity formation as reflected in both the Stó:lō material and oral records.

Surge, Donna [148] see Walker, Karen

Surovell, Todd (University of Wyoming), Joshua Tatman (SWCA Environmental Consultants), Nicole Waguespack (University of Wyoming) and Patrick Mullen (University of Wyoming)

[193] *How many flakes does it take to make a tool? (and related musings)*

Although researchers working in a behavioral ecological framework have investigated numerous dimensions of prehistoric lifeways, the direct application of this paradigm to chipped stone technology has been minimal. In this paper, we develop and test a formal model concerning stone tool production. Specifically, we ask how many flakes should be removed from a core to produce a flake tool. We test the model using data from a series of sites in the Rocky Mountain west. Furthermore, we argue that the model explains a fundamental difference between modern and prehistoric flintknapping and a widespread property of archaeological lithic spatial distributions.

Surovell, Todd [184] see Waguespack, Nicole M.

Sutter, Richard (Indiana Univ-Purdue Univ Fort Wayne)

[263] *Becoming Chiribaya (AD 900 -1350): An Example of Post-Tiwanaku Ethnogenesis in the Moquegua Valley, Peru*

Bioarchaeological studies of ethnogenesis provide long-term perspectives on social identities. The coastal Chiribaya of Moquegua, Peru, were one of the social groups to emerge following the collapse of the Tiwanaku polity. While some argue that the Chiribaya were descended from former Tiwanaku colonists, others assert that the Chiribaya represent a local coastal group. This paper tests biodistance data using design matrices representing competing hypotheses. The Tiwanaku descendant model has a higher and significant correlation, while the coastal origin model exhibits a poor and insignificant fit with the biodistances. Chiribaya ethnogenesis is discussed in light of these results.

Sutton, Elizabeth (University of California, Santa Barbara)

[152] *New Evidence for Late and Contact Period Residential Occupation in the Central Valley of Santa Cruz Island*

By the Historic period, the Chumash of the Channel Islands were known to be living in aggregated villages on the coast. However, the antiquity of these coastal villages and the degree of sedentism practiced by their inhabitants remains largely unknown. Recent excavations in the Central Valley of Santa Cruz Island coupled with a reexamination of ethnohistoric documents reveal that residential settlements were also maintained in the interior of the island well into the Contact period. Future excavations will provide a refined chronology, determine seasonality, and provide a history of activity for these sites.

Swain, Hedley (Museum Libraries Archives Council)

[65] *Relevance, and Engagement, Towards a New Model for Archaeological Collections*

Experience at the Museum of London, England, in particular, and in the UK and Europe in general has shown that detailed guidance, and good storage and documentation, only provide part of the solution in considering the long term, sustainable future for the collections of material that result from archaeological excavations. New models are needed that consider the relevance of this material to both archaeological research and knowledge

development, and to the wider use of such material in public engagement programmes.

Swan, Thaddeus [66] see Puseman, Kathy

Swanson, Steve (Arizona State University), Arley Simon (Arizona State University) and Todd Bostwick (City of Phoenix)

[12] *Hohokam Agave Production in the Phoenix Basin*

While the last 15 years have witnessed a great deal of information on the cultivation of agave in the Tucson area during the Hohokam Classic Period, its importance in the Phoenix Basin heartland is less understood. We examine evidence for agave cultivation and processing from previously recorded sites in the vicinity of the Hohokam canal systems and recent discoveries of the ASU-City of Phoenix South Mountain Rock Art Project. Information from features, artifacts, residues, and ethnographic data provide a framework for understanding the ritual and economic importance of this plant during the Preclassic and Classic Periods.

Swarts, Kelly (Northern Arizona University)

[4] *Architecture and Intra-Village Dynamics: A Paleobotanical Analysis of Honey Bee Village, A Northern Tucson Basin Hohokam Site*

This research employs macrobotanical analysis to examine the underlying causes for the construction of distinct architecture by the Hohokam during the Sedentary Period (A.D. 950-1150) at Honey Bee Village, Oro Valley, Arizona. This project analyzes flotation samples taken from secure, pithouse contexts. In-migration, social differentiation, and differences in ethnicity and function are all potential causes for differences in contemporaneous structure construction. Analyzing plant resource use provides one line of evidence for understanding village-level dynamics in a Sedentary Period Tucson Basin Hohokam community.

Swearson, William and Melinda Leach (University of North Dakota)

[214] *Breakage during Manufacturing and Use: Patterning on Hunting Implements from Serendipity Shelter, Washoe County, Nevada*

Many behavioral elements of culture are integrated into lithic production systems (e.g., mobility patterns, raw material procurement, trade, site use, task organization, etc.). Serendipity Shelter, a strategically-located, archaic, short-term residential rockshelter with pictographs in northern Nevada, provides an opportunity to examine several elements of a complex lithic production system. This study, part of a long-term investigation at the Shelter, focuses on breakage patterns on projectile points, and addresses how such breakage might relate to raw material variability, style, and technology. Archaeological data are compared to replicated breakage generated on points during experimental manufacturing activities and in simulated hunting situations.

Sweetwood, Ryan (BYU), Richard L. Terry (Brigham Young University) and Tim Beach (Georgetown University)

[109] *Soil Resources of the ancient Maya at Chunchucmil, Yucatan, Mexico*

Agricultural yields in the northwest Yucatán are constrained by climate, thin soils, and low fertility. The poor soil resources of the area may indicate that food trade would have been required to supplement the food resources couldn't have been produced at Chunchucmil under traditional agricultural methods, or that agriculture was based on atypical crops and/or methods. This study furthers the investigation of soil resources by determining agricultural potential through soil fertility and pedogenesis analyses and comparing these data to settlement density, and remotely sensed images.

Swenson, Edward (University of Lethbridge)

[178] *Transcending Dichotomies of Power: Performing Status and the Politics of Spectacle in Ancient Peru*

This paper critiques dichotomous models of social inequality (elite / commoner; urban / rural; domination / resistance) while recognizing that Marxian and Weberian conceptions of class and status remain useful heuristics for understanding power asymmetries in the prehistoric Andes. I argue that we can effectively build upon and transcend the limitations

of such categories by examining culture-specific, ideological constructions of social distinction as expressed spatially and experientially. A diachronic analysis of ceremonial architectural from Peru's North Coast demonstrates that archaeologists can better approximate how power differentials were conceptualized, idealized, and contested in the Andes through their theatrical performance.

Swidler, Nina (Navajo Nation Hist Pres Dept) and Michael Yeatts (The Hopi Tribe)

[132] *Ritual Deposition?: A Multivariate Examination of Retirement Behavior of Status Items in the Southwest*

In this poster, we examine behavior involved in the retirement of status items across the rural southwestern landscape. A multivariate approach is employed to study the agency of this behavior. Conclusions are derived about the ritual, cannibalistic-utilitarian, and trophyistic implications revealed by the patterning.

Szpak, Paul, Darren Gröcke (Durham University) and Trevor Orchard (McMaster University)

[172] *Isotopic and Archaeological Evidence for Regional Ecological Differences in Pre-Contact and Early Contact Haida Gwaii (British Columbia)*

Stable isotope analysis offers a direct way to investigate palaeoecology, and, by extension, a means to better understand the ecological conditions within which hunter-fisher-gatherer subsistence economies functioned. Isotopic analysis of faunal remains from a number of late Holocene village sites in southern Haida Gwaii, combined with the results of more traditional archaeological analyses, reflect regional variability in local food webs and ecological conditions. This variability, in turn, provides insight into both the variable nature of past subsistence practices and settlement patterns, and the temporal stability of these patterns.

Taala, Sabrina (JPAC-CIL)

[218] *Patterns of Missing Bone in Disturbed Burial Contexts*

When human burials are looted or otherwise hastily disinterred, certain skeletal elements are left behind at higher rates than others. This study presents a pattern of missing bones observed in a sample of U.S. war dead burials from the Joint POW/MIA Accounting Command. The sample includes burials with good skeletal preservation that were either looted or disinterred and secondarily-buried. Several primary factors appear to dictate which elements are left behind - element size (e.g. hands and feet), fragility (e.g. some vertebrae, ribs, and cranial bones), and type of articulation (e.g. single rooted teeth, patella, and hyoid).

Tache, Karine (Simon Fraser University)

[284] *Interpreting the Meadowood Interaction Sphere: Religious cult, risk-buffering mechanism, or political strategy?*

In Northeastern North America, the Meadowood Interaction Sphere (3000-2400 BP) has been interpreted alternately as a burial cult or a risk-buffering mechanism of regional interaction. In contrast, I argue that the Meadowood Interaction Sphere may best be explained by the development of socioeconomic inequalities and an attempt by a few individuals or corporate groups to enhance their personal status and advantages through privileged access to rare goods. This argument is based on the objects circulating in this exchange network, the contexts in which they occur, the distribution of sites across the landscape, and other characteristics of Meadowood communities.

Tackney, Justin [223] see ORourke, Dennis H.

Tacon, Paul (Griffith University)

[269] *'Modern human behaviour': the view from Asia*

Debate about the development of so-called modern human behaviour has focused on Africa and Europe but recent archaeological discoveries across Asia are challenging both archaeologically and genetically based theories. Many milestones of modern human behaviour that can be archaeologically discerned are found in Asia, far beyond the Levant area, at the same time or earlier than in other parts of the world. In this paper the role of

Asia is critically examined. It is proposed that a number of distinct cultural groups existed well over 40,000 years ago and that contemporary humanity inherited much from those of Asia.

Tafilica, Zamir [206] see *Galaty, Michael L.*

Takada, Akira (ASAFLAS, Kyoto University)

[270] *Shared folk knowledge: Story-telling as a form of information flow*

The |Gui and ||Gana live a nomadic life within the Kalahari Desert, but have experienced drastic social changes. They have developed a vast folk knowledge that enables them to acquire ample bush foods and to accurately locate their geographic position in this environment. This study demonstrates that their folk knowledge is largely the product of interplay between ecological features of the Kalahari and their imagination. Detailed analysis of their story-telling indicates how they activate, evolve, and share folk knowledge through their distinctive communication style. Therefore, story-telling acts as a device to disseminate and amplify information regarding |Gui/||Gana folk knowledge.

Takakura, Jun (Hokkaido University)

[94] *The Emergence and Development of Blade Technology in Northeast Asia: A Technological Reconsideration of the Refitted Materials*

It is sure that the emergence and development of blade technology has been a significant topic in the Paleolithic archaeology of Northeast Asia. More recently, some refitted materials relating to blade technology have been obtained in this area. This paper will present the blade reduction sequences and flaking techniques based on the analysis of these refitted materials. Through the identification of flaking techniques, I will focus on the reconsideration of concept among the blade technology.

Tallio, Nelson [71] see *Gould, Brenda*

Tam, Manuel [177] see *Klaus, Haagen D.*

Tang, Jigen and Zhichun Jing (Department of Anthropology, University of British Columbia)

[226] *The Bronze Culture in the Ganjiang Valley and the Nature of Shang Expansion*

One of hotly debated and unsolved issues in the investigation of early Bronze Age China is the timing, extent, and nature of the expansion of Shang culture into the middle Yangzi region. This paper discusses the rise and development of bronze-using societies in the Ganjiang valley south of the middle Yangzi, and their relations with the Shang expansion. We argue that the Shang expansion reached its maximum during the late phase of the middle Shang instead of the Upper Erligang period. It is emphasized that both interregional interaction and local agency should be considered in the study of the Shang expansion and its impacted societies.

Tankersley, Kenneth (University of Cincinnati)

[258] *Cherokee Use of Caves in the Ohio Valley*

Although a large suite of treaties and historical records demonstrate that the Ohio River valley of Kentucky was originally within the limits of Cherokee land claims, there has been almost no direct positive evidence of their presence in the region. This paper presents recently discovered examples of Cherokee rock art in the caves of Rockcastle and Clay counties, Kentucky. Traditional Cherokee symbols are depicted as petroglyphs and pictographs, including what may be the oldest example from Sequoya's syllabary. The contexts of these findings suggest that the Cherokee were using caves in southeastern Kentucky for ceremonial purposes into the nineteenth century.

Tanner, Benjamin [231] see *Sanger, David*

Tanudirjo, Daud [22] see *Lape, Peter V.*

Tappen, Martha (University of Minnesota), David Lordkipanidze (Georgian National Museum) and Reid Ferring (North Texas University)**[238] Evidence for Hominin Behavior at Dmanisi**

Excavations at the Dmanisi site in Georgia, which dates to the earliest Pleistocene, have been conducted since 1984 and new fascinating materials continue to be found. We present current finds of "mode I" stone tools, manuports, and fossil animal bones across different locations and strata within the site. Evidence indicates early access to meat of medium-sized mammal species, marrow consumption, repeated occupations, and stone transport. This evidence is integrated with information available from the hominin fossils themselves and compared and contrasted to sites from the same time range in Africa.

Tarble de Scaramelli, Kay [291] see Scaramelli, Franz G.**Tarpley, Michael [311]** see Kraushaar, Angelica**Tate, Carolyn (Texas Tech University)****[136] Phallus, Seed, Womb: La Venta's Primal Creation Narrative**

Prior to the advent of any script in the Middle Formative, the Gulf Coast Olmec fashioned a creation and origins narrative using sculpture set along a 1700 meter path. The six "narrative stations" along this path featured images of procreation, gestation, birth, florescence, and decapitation. The monuments of La Venta, long interpreted as political-shamanic in nature, were also fundamentally images of the sexual and regenerative processes of nature and life.

Tatman, Joshua [193] see Surovell, Todd A.**Tatum, Donald [60]** see Sterling, Sarah L.**Taube, Karl [112]** see Coltman, Jeremy D.**Tavarez Maria, Glenis****[196] Los Taínos: Consideraciones Generales para Su Definición**

La máxima expresión cultural existente en las Antillas, es la conocida con el nombre de taina. Tenemos noticias de este término por los cronistas de indias quienes hasta asignan un significado del mismo al decir que taino es equivalente a hombre bueno. Sin embargo, historiadores y estudiosos en general han usado el nombre taino indistintamente para denominar con el mismo a todos los aborígenes que poblaban las islas mayores. En el caso de la República Dominicana, el taino no fue el único poblador en contacto con los españoles. Otras culturas compartían el territorio isleño. El mismo Colón da cuenta de estas diferencias cuando en el primer viaje las establece entre unos aborígenes del noreste y los otros con los cuales compartió en el norte de lo que hoy corresponde a la República de Haití. Estos son los llamados ciguayos distintos a su vez de los tainos y contemporáneos en el tiempo. De la mano con las fuentes originales de la época más los aportes de la arqueología intentamos plantear algunos aspectos para tomar en cuenta en cuanto a la cultura taina para denominar así el grupo del cual hablamos.

Taylor, Amanda (University of Washington) and Amanda Taylor (University of Washington)**[60] Shell, Drift, and Till: Effects of Erosion on Coastal Archaeology in the Puget Sound and San Juan Islands**

This paper presents a model for the effects of erosion on prehistoric coastal archaeological sites in the Puget Sound and San Juan Islands incorporating geomorphological and cultural variables. Impact of erosion is considered both in terms of individual sites and regional-scale site distributions. I apply the model to Vashon Island and the San Juan Islands, WA, by comparing historic records, past archaeological surveys, and surveys conducted in 2005-2007. Based on this study I propose revisions to conventional archaeological interpretations in the Puget Sound region and discuss considerations for future work in the face of climate change.

Taylor, Amanda [243] see Stein, Julie K.; **[60]** see Taylor, Amanda

Taylor, Christine [297] see Davis, Peter F.

Taylor, James, Amanda Henck (University of Washington), Hongliang Lv (Sichuan University), Qinxia Yang (Jiuzhaigou National Park) and Yongxian Li (Sichuan University)

[168] Interdisciplinary, International Research at the Asano Archaeological Site, Jiuzhaigou National Park, Sichuan, China

In 2007 an international, interdisciplinary team identified the first prehistoric site (Asano) in Jiuzhaigou National Park. This site is significant in its cultural, geological, and ecological importance for the region and park. Here we clarify the hitherto unknown length of human occupation in Jiuzhaigou and the impact humans have had on shaping the modern, ecological and geological landscape of this UN World Heritage Site. As current management strategies are based upon a narrow human time-depth of the past one hundred years, research at Asano is critical for refining those strategies to reflect the long-term human/environment relationship on a millennial scale.

Tchakirides, Tiffany (Cornell University) and John Henderson (Cornell University)

[61] Identifying Anthropogenic Versus Geological Features in Geophysical Data: A Closer Look at Los Naranjos and Puerto Escondido, Honduras

Ground-penetrating radar and magnetic gradiometry data were acquired at the sites of Los Naranjos and Puerto Escondido, Honduras in May, 2007. These sites, located only 100 km apart, experienced very different developmental trajectories. Geophysical data exhibit further differences in depth of penetration, resolution of subsurface features, and delineation of anthropogenic versus geological features. Both are multi-component sites; complex stratigraphy with superimposed features complicates geophysical data analysis and identification of individual features. Geological strata and anthropogenic features were imaged at Los Naranjos, whereas anthropogenic signatures dominate at Puerto Escondido.

Teeman, Diane (Archaeological Resource Consultants)

[1] Inroads and Dead Ends: Journeys in Collaboration

What is collaboration? How does it differ from mandated consultation? Why should archaeologists care about collaborating with descendant communities? Is there a right way to "do" collaboration? What are the benefits and risks of collaboration? Okay, it sounds interesting, but how do I get started? Case studies of successful and not so successful collaborative efforts will be reviewed. Discussion of responses from archaeologists and First Nations/Native Americans to questions about their experiences with collaboration will be highlighted.

[1] Co-Organizer

Teeman, Diane [1] see Atalay, Sonya L.

Teeter, Wendy (Fowler Museum at UCLA)

[277] A look at Cerro Portezuelo Faunal Remains and worked bone within Central Mexico
A preliminary look at the faunal remains from Cerro Portezuelo reveals a varied and lasting source of commensal and wild meat. Environmental reconstruction can be teased out by the types of animals seen as well as possible relationships between the city and nearby settlements, including Teotihuacán. An interesting array of worked bone artifacts includes weaving tools, personal adornment, and musical instruments will also be discussed.

[38] Discussant

Tehrani, Jamshid [261] see Collard, Mark

Tenorio, Maria (Museu Nacional Brazil)

[31] Looking for a maritime culture

Two interpretative models are used in order to explain human settlement by pre-ceramic groups along the Brazilian coast. The first one is based on settlement made by groups of hunters, gatherers and fishermen who came from the interior and the other on the

existence of a cultural unit for shell mound builders structured by customs and rituals. The existence of a cultural unit for shell mound builders implies in the existence of a maritime culture that might have arrived at the Brazilian coast with their cultural traces already well structured. The problem is tracking down its source.

Tenpas, Andrew and Timothy McAndrews (University of Wisconsin-La Crosse)
[298] *The Role of Salinization in the Decline of the Tiwanaku Raised Field Agricultural System*

The decline of the Tiwanaku state occurred during a time of environmental stress and prolonged drought around A.D. 1150. This led to the view that Tiwanaku's collapse was caused by the failure of the Tiwanaku raised field agricultural system due to prolonged drought. We build on previous research by providing a multivariate explanation of how raised fields and other agricultural systems in the Tiwanaku hinterland failed. We suggest that salinization, brought on by a combination of natural and anthropogenic factors, contributed to the failure of agricultural systems in the Titicaca Basin and led to Tiwanaku's collapse.

Terry, Karisa and Ian Buvit (Washington State University)
[245] *Post Late Glacial Maximum Human Population Dynamics in Siberia: A View from the Transbaikal*

Models of post Late Glacial Maximum (LGM) populations across Siberia are based on an increased number of radiocarbon-dated sites. We examine site densities, instead, in terms of human mobility, preservation, and geological positioning. As people moved around more frequently, as evidenced by changes in lithic technological organization, traces of their presence on the landscape increased. Moreover, many post LGM sites are found in low-energy deposits conducive to site preservation. Finally, fluvial landforms commonly occupied just prior to and during the LGM can be buried beneath more than 9 m of sediments, which might take over 20 years to excavate.

Terry, Martin (Sul Ross State University), Earl Crockett, Karen Steelman (University of Central Arkansas) and Phil Dering (Shumla Archeobotanical Services)

[179] *Psychoactive Cacti in North American Archaeology*
Peyote (*Lophophora williamsii*) specimens recovered from Shumla Caves are not simply desiccated crowns of peyote plants, but rather artificial effigies of peyote crowns, formed from peyote and other plant material. The $\delta^{13}\text{C}$ data on this material are presented, and the question of the cultural significance of these archaeobotanical artifacts is discussed. Cardón (*Pachycereus pringlei*) is a psychoactive cactus that may have played a sacramental role in the spiritual life of an Archaic culture in Baja California. The preliminary evidence to support such a characterization, from pictograph images of "Cardón Man" alkaloid chemistry and human psychopharmacology, is presented.

Terry, Richard (Brigham Young University), Marco Alvarez (Brigham Young University) and Richard L. Burnett (Brigham Young University)
[109] *The ancient agricultural landscape and soil resources at Tikal, Guatemala*
Soils from the ancient Maya site of Tikal, Guatemala were physically and chemically characterized. Soil types were identified and ranked according to their current agricultural potential. Soils were collected from upland and seasonal wetland areas. Stable carbon isotope analysis was conducted on the organic matter of the soil samples to search for evidence of ancient maize agriculture. The isotope data was compared with the current soil conditions to better understand ancient land use and how the agricultural landscape has changed over time.

[109] *Chair [109] Co-Organizer*

Terry, Richard [109] see Magnoni, Aline; [109] see Bair, Daniel; [109] see Balzotti, Chris

Terry, Richard L. [109] see Sweetwood, Ryan V.

Teschler-Nicola, Maria [218] see Viola, Bence Th.

Tews, Amber (SWCA Inc), Herbert Maschner (Idaho State University), Roland Russell and Spencer Wood (University of British Columbia)

[220] *Microregional spatial and temporal variation of shellfish exploitation on Sanak Island, Alaska*

Shellfish use over the 6000 year archaeological sequence on Sanak Island, Alaska, is not evenly distributed through time or across the landscape. There are periods where shellfish use is common, ca. 1600 BC, 200 BC, and AD 1600, and other periods where shellfish use is rare, ca. 3000 BC, 1000 BC, and AD 800. Further, comparisons between the archaeological data and recent intertidal surveys show radical differences between the modern availability of many species and those found in prehistoric middens. Here we attempt to reconcile this spatial and temporal variation in the context of demography, seasonality, and regional climate change.

Thacker, Paul (Wake Forest University)

[94] *Regional Variability in Portuguese Middle Paleolithic Technological Organization and Raw Material Economy*

Middle Paleolithic toolmakers experienced markedly different near-site raw material availability at Vale Permego and Casal dos Carvalhais, two open-air sites located in Ribatejo, Portugal. Reflecting local raw material prevalence, quartzes dominate the lithic assemblage at Vale Permego while high quality cherts were exploited extensively at Casal dos Carvalhais; yet both sites display similar technological organization. This central Portuguese pattern of raw material exploitation and technology is complemented by assemblage organizational data from Vinhas, a Middle Paleolithic open-air site from the interior Alentejo of Portugal. Late Middle Paleolithic technology in Portugal was organized around local raw material exploitation with similar reduction strategies and toolkits occurring in quite different paleoenvironments.

Thakar Hucks, Heather (University of California, Santa Barbara)

[152] *Shellfish Exploitation, Coastline Geomorphology and Climate Variability on Santa Cruz Island*

On Santa Cruz Island, distribution of nearshore coastal habitats and marine resources vary within the island's environment. During the Holocene, development of present coastline geomorphology impacted coastal food chains, marine resource availability and prehistoric subsistence. Recent research has utilized radiocarbon dates on Tivela stultorum in archaeological deposits as a proxy record for development of sandy beaches on the mainland coast of southern California. A current investigation of dense Tivela stultorum deposits at site SCRI-480 on Santa Cruz Island evaluates the relationship between prehistoric shellfish exploitation, the development of local geomorphology of the coastline, and climatic variability on Santa Cruz Island.

Tham, Teresa Rosales [274] see Bethard, Jonathan D.

Thomas, David (American Museum of Nat History), Anna Semon (American Museum of Natural History), Elliot Blair (American Museum of Natural History) and Matthew Sanger (American Museum of Natural History)

[173] *Experimental Archaeology and Resource Ranking on St. Catherines Island (Georgia)*
Models drawn from human behavioral ecology provide an appropriate framework to address the changing aboriginal landscape of St. Catherines Island (Georgia). Over three years, we conducted hundreds of controlled foraging experiments on a broad range of marine, estuarine, and terrestrial resources. More than 100 tissue samples (from shellfish, sea turtle eggs, acorns, hickory nuts and terrestrial animals) have been analyzed to monitor seasonal changes in nutrient proportions and energy potential (kcal/100 gm). When incorporated into central place foraging, patch choice and diet-breadth models, these experimental findings generated a series of specific, testable hypotheses regarding economic intensification and residential mobility through time.

[1] *Discussant*

Thomas, Jonathan (University of Iowa)

[307] *Mind Over Matter: Examining Variability in Lithic Manufacture*

Archaeologists have long examined the motor skill and cognitive abilities requisite for the manufacture of lithic technologies. One of the primary concerns addressed in these studies has been the examination of the evolution of stone tool technology as a litmus test for the development of behavioral modernity. This paper explores this debate through variation related to individual fine-motor skills (personal style) and variation which is the result of intentional choice and thus culturally mediated (group style), and prompts us to question our assumptions about both behavioral modernity and the ways in which we approach stylistic variability in lithic assemblages.

Thomas, Julian (Manchester University)

[55] *Architecture and Memory: The Southern and Western Circles at Durrington Walls*

The excavation in 2005-6 of the southern timber circle and the enclosed buildings inside the Durrington Walls henge has profound implications for the way that we imagine the relationship between Stonehenge and Durrington, and later Neolithic society in general. The Southern Circle is revealed as the wooden counterpart of the stone settings at Stonehenge, while the western circles show a 'domestic' architecture being adapted to a 'monumental' context. This paper addresses the architecture and deposits at Durrington in terms of memory, ritual performance and the transformation of spatial order.

[55] *Co-Organizer*

Thomas, Noah (University of Arizona)

[229] *Metals, Pigments, Ores and Assays: The Politics of Value in the Early Spanish Colony of New Mexico*

Early Spanish colonial mining endeavors were dependant upon Native American labor and skill in many aspects of the industry, both directly through involvement in metallurgical technology and in ancillary industries such as in the production of leather goods, salt, and ceramics. This paper explores how such involvement shaped the mining industry of New Mexico and more generally, the production of value in both local and regional economies.

Thomas, Roberta [11] see Hundtoft, Brooke

Thomas, Scott P. [120] see Epstein, Ethan A

Thompson, Erin (Arizona State University) and Curtis W Marean (Arizona State University)

[149] *Cape St. Blaize Cave and the use of the term "Mossel Bay" in Middle Stone Age Studies*

The Cape St. Blaize Cave Middle Stone Age lithic sample figures prominently in South African MSA studies. It forms the basis of the "Mossel Bay" (MB), which has been defined as a culture, industry, variant, technique, and sub-stage. This paper reviews the usage of the term through a re-analysis of the entire assemblage from the original excavations. It is determined that the term "MB" entity is fraught with ambiguity due to the selected nature of the collection and the lack of a complete description and analysis. The original type-site needs to be reinvestigated with better stratigraphic control and unbiased samples.

Thompson, Erin [149] see Minichillo, Tom

Thompson, Jessica (Arizona State University)

[149] *Taphonomy of the faunal assemblage from Pinnacle Point Cave 13B, Western Cape, South Africa*

The well-preserved faunal assemblage from Pinnacle Point Cave 13B differs in several ways from other Middle Stone Age (MSA) accumulations – most obviously in the relative abundances of large mammals, small mammals, and tortoises. A taphonomic study of the assemblage provides explanations for these differences and serves as the anchor for larger interpretations of MSA faunal exploitation at the site.

Thompson, Judy (Canadian Museum of Civilization)

[260] "That Time Long Ago": Northern Athapaskan Art and Material Culture as documented in early ethnographic collections.

Northern Athapaskan ethnographic artifacts dating earlier than 1850 are rare, thinly distributed in North American and European museums. The corpus includes a variety of artifact types and documents proficiency in working natural materials such as animal hide, bone, horn and antler, bark and root, and artistry in porcupine quillwork, painting and engraving. With few exceptions, the artifact types and decorative art they illustrate were no longer in evidence or were in decline by the end of the 19th century. Today, these collections play a critical role in Athapaskan initiatives to repatriate knowledge related to traditional art and material culture.

Thompson, Kerry (Northern Arizona University) and Neomie Tsosie

[132] *The View from the Periphery: Colonization and Navajo Foodways*

We examine the growth and distribution of particular food institutions in Navajo culture. Specifically, we are interested in the relationship of these food institutions to the growth of population and community centers. Do these food institutions across the Navajo landscape represent one episode of colonization by an expansionist regime, or do they represent several episodes by several regimes? How does the material record reflect Navajo perceptions of self in the face of appropriated non-Navajo institutions?

Thompson, M. (Arizona State University)

[20] *The Mimbres Dead Across the Pithouse to Pueblo Transition*

Several explanations for the pithouse to pueblo transition in the Mimbres area of New Mexico are anchored by interpretations of mortuary activity. This paper examines two key assumptions regarding changes in mortuary behavior from the Late Three Circle phase to the Classic Mimbres period: 1) that some Mimbres Classic rooms were used as formal cemeteries, and 2) that corporate groups buried their dead in these cemeteries to signal group affiliation. Results suggest that Classic period mortuary behavior does not represent a drastic departure from Pithouse period practices, but that it instead represents an intensification of them.

Thompson, M. Scott [261] see Benton, J D.

Thompson, Victor (University of West Florida) and Phillip J. Arnold, III (Loyola University of Chicago)

[279] *Space and Architecture at Teotepec: Geophysical Investigations in the Sierra de los Tuxtlas*

Recent investigations at the site of Teotepec in the Sierra de los Tuxtlas are exploring Late Classic (AD 800 – 1000) socio-economic conditions in southern Veracruz, Mexico. A central theme of this research examines the interaction between Teotepec's occupants and adjacent lowland groups, especially as expressed in the site's distinctive architectural configuration. During the 2007 field season we initiated a systematic geophysical survey of Teotepec and obtained initial information on the layout, orientation, and possible function of the site's central architectural core. These data underscore important similarities with lowland sites beyond the Tuxtla Mountains, but suggest few parallels within the upland Tuxtlas region.

Thordarson, Bjorn (Mosfellsbaer)

[28] *MAP and Its Importance for the Local Community of Mosfellsbaer*

The Mosfell Archaeological Project (MAP) has been in close collaboration with the town of Mosfellsbaer from the start. The local authorities and MAP have cooperated around research logistics and the use of research results. The community views the archaeological research as important for the understanding and preservation of its local cultural heritage, and a vital contribution to the study of Icelandic cultural and social history. The local interest is based on the importance of the MAP's holistic archaeological view, because such an approach provides wider perspectives and possibilities in the presentation of the local history for the public.

Thornock, Christopher [129] see Walker, Chester

Thornton, Christopher (Dept of Anthropology)

[96] *The Emergence of Complex Metallurgy on the Iranian Plateau: Escaping the Levantine Paradigm*

The standard 'sequence' of metallurgical development in the Near East and the socio-cultural behavior that is thought to accompany these stages are mainly based upon the archaeo-metallurgical studies of the Levantine Chalcolithic. Early settlements of the Iranian Plateau, where metal production was both complex and specialized by the 5th millennium, demonstrate the problems of applying this 'lowland' model to all regions of the Middle East. In this paper, I will synthesize the development of metallurgy on the Iranian Plateau, focusing on the application of pyrotechnology and the social organization of craft production, in order to propose a more highland-based model.

[64] Co-Organizer

Thornton, Erin Kennedy (University of Florida)

[97] *Diet, Animal Use and Exchange: Zooarchaeological Evidence from Cancuén, Guatemala*

The Late/Terminal Classic period Maya site of Cancuén is located near the Petexbatún region in southwestern Petén, Guatemala. Based on its location, Cancuén is thought to have played a major role in highland-lowland trade and interaction. This paper will discuss the zooarchaeological remains recovered from the site to assess the extent to which faunal resources were integrated into the site's highland-lowland trade system. Comparisons will also be drawn between the site's faunal assemblage and those of its likely trading partners to assess regional variation in animal use and the nature of economic relations between sites within the larger Petexbatún region.

Thorson, Kevin [221] see Vivian, Brian C

Thurston, Tina (SUNY Buffalo)

[15] *'We live well together': sedentization, villageization and social capital in the north European Iron Age*

During the Iron Age, a long, north European tradition of swiddening in dispersed, isolated kin-based farms gave way to 'villageization' into sedentary, agglomerated non-kin communities. Often attributed to some climate/demographic 'push', I instead explore 'pull factors', as modern villageization is amongst the most disruptive and unwelcome of strategic interventions. Villageization was likely interwoven with an emerging North Atlantic mixed farming complex: pastoralism, byring, and manuring for cereal crops. Even voluntary reorganization and establishment of new agroeconomies invoked significant social change, as long-term, continuing investments of cooperative labor into landesque capital both required and resulted in new types of social capital.

Thurston, Tina [264] see Brunton, Thomas F.

Tiedemann, Erica (Tayet Archaeological Textile Research) and Kathryn Jakes (The Ohio State University)

[24] *Characterization of Replicated Yarns Toward Determining Spinning Technology from Textile Fragments*

Due to poor preservation conditions, textiles and textile technology are often under-represented in the archaeological record. An experimental archaeological study of spinning technology showed the feasibility of detecting production information from textile fragments. Replicated yarns made by thigh-spinning and spindle-spinning were used to develop a method to distinguish production activities by measuring properties of yarn structure in archaeological specimens. Data collection during yarn replication and destructive testing of the replicated yarns also yielded information about the socio-economic implications of spinning technology choice and the serviceability of the yarns within textiles.

Tiesler, Vera (Universidad Autónoma De Yucatán) and Andrea Cucina (Universidad Autónoma de Yucatan)

[291] *Current and Future Agendas in Maya Bioarchaeology*

Recent Maya research has increasingly incorporated information set forth by bioarchaeological agendas. Here, we wish to outline the advances, pitfalls and challenges met by the interdisciplinary biocultural research in this data-rich environment. We sketch several lines of future integrated research and trace perspectives for coherent theoretical frameworks. These consent a much needed shift from bioarchaeology's still predominant role as a source of information and methodological (though highly sophisticated) tool, to a truly interpretive and theoretical contribution, capable of canalizing the ample sources of information into a unified approach in the reconstruction and interpretation of ancient life ways and social change.

Till, Jonathan [90] see *Barker, Andrew L.*

Timmins, Peter

[107] *Quality Assurance in CRM: An Archaeological Reassessment in Southern Ontario*

This paper discusses the methodology and results of an archaeological reassessment of a contentious property in southern Ontario. The reassessment included re-survey of agricultural fields and re-investigation of several archaeological sites. Methodologies employed included backdirt screening and excavation of additional units on previously excavated sites. The results of the reassessment did not replicate those achieved during the original investigations, suggesting significant differences in archaeological practice and artifact recovery rates between the two investigations. The paper proposes quality assurance and monitoring measures that may be undertaken by CRM firms and regulatory agencies to improve quality control in CRM.

Tinteroff Gil, Vanessa (Centre De Recherche Sur L'Amérique Préhispanique)

[98] *La transición Paracas – Nasca : estudio de una mutación cultural*

Gracias al análisis de datos arqueológicos específicos, en particular de la península de Paracas y de Cahuachi, esta presentación expone los resultados de nuestra tesis doctoral, la cual intentó revelar los fundamentos socioculturales de la transición Paracas – Nasca. Se propone que al final del declino de Chavín, las comunidades de la cultura Paracas vivieron una mutación cultural multidireccional, produciendo así la aparición de distintas entidades culturales en la costa sur : paracas, topará y nasca. El desarrollo específico de las poblaciones de la región de Nasca facilita entender los orígenes, la consolidación y el prestigio posterior de la cultura Nasca.

Tishkoff, Sarah A. [149] see *Brooks, Alison S.*

Tito, Raul [223] see *Malhi, Ripan*

Todd, Lawrence (Colorado State University) [199] *Co-Organizer [95] Discussant*

Todd, Lawrence [221] see *Bechberger, Jillian M.*

Tokovinine, Alexandre (Department of Anthropology, Harvard University), Francisco Estrada Belli (Vanderbilt University) and Heather Hurst (Yale University)

[297] *Public Architecture at La Sufriçaya, Holmul, Petén: Formation and Function of a Classic Maya Palace Complex*

Ongoing research at the Early Classic palace complex of La Sufriçaya sheds new light on the internal and external political forces behind the foundation of Classic Maya ceremonial centers. La Sufriçaya represents a case of an Early Classic period foundation unusually well documented by archaeological and epigraphic data. Despite its diminutive size and proximity to the main ceremonial area of Holmul, this complex contains all the material attributes of an independent political center: plazas, temples, a ball-court, a richly decorated palace and inscribed monuments. The spatial analysis of these elements offers further insights into their function.

Tolmie, Clare (Midwest Archaeological Research Services, Inc.) and Rochelle Lurie (Midwest Archaeological Research Services, Inc.)

[305] *Finding Undisturbed Sites in Unexpected Places: Exploring the Archaic in the Suburbs of Chicago*

There has been much discussion over the differences between academic archaeology and CRM archaeology. The advantage of academic research programs is the ability to focus on long-term research goals. One advantage of CRM is that archaeologists frequently survey areas that appear to have little potential for containing significant sites. Three such areas in suburban Chicago have provided significant information on upland site use, lithic manufacture and spatial organization in the Archaic. This paper demonstrates the potential for such small sites to provide data on short-term base camps and resource extraction camps in northeastern Illinois.

Tomasic, John (Vanderbilt University) and Francisco Estrada-Belli (Vanderbilt University)

[97] *Ancient Maya settlement at K'o, Peten Guatemala and the transition from the Preclassic to the Classic period*

K'o is one of several medium-sized ceremonial centers surrounding the Classic Maya city of Holmul, Guatemala. Ongoing research demonstrates that the site was occupied by a sizeable population from the Late Preclassic through the Terminal Classic periods (300BC-AD850). Mapping and excavations in the site center and periphery demonstrate a surge in construction in the Preclassic period paralleled by a wide residential area. The relationships of the ancient settlement with its ecosystem and with the nearby larger settlement of Holmul is examined to inform about Maya shifting economic and power strategies during the Preclassic to Classic transition.

Tomasto Cagigao, Elsa

[98] *Las sociedades Paracas y Nasca en Palpa: una visión desde la Bioarqueología*

En los últimos 10 años el Proyecto Arqueológico Nasca Palpa ha excavado más de 150 contextos funerarios correspondientes a los períodos Paracas y Nasca. El análisis bioarqueológico de los restos humanos ha dado a conocer cambios en aspectos paleodemográficos, estatura y patología esquelética y dental, que pueden correlacionarse con variaciones climáticas en la zona y con otras de carácter cultural. Además se percibe una continuidad en los indicadores de violencia interpersonal.

Toohey, Jason (Department of Anthropology)

[232] *Life on a Terrace: Situating Daily Activity in the Late Intermediate Period Northern Peruvian Highlands*

Intrasite spatial analysis and household based archaeological approaches to the LIP community of Yanaorco situate northern highland household and domestic patterns within broader issues of political and economic reorganization throughout the LIP Andean highlands. Recent work in Cajamarca for the first time focuses on household and community level patterns of domestic architecture, production, and consumption countering previous top-down approaches to local social dynamics in the region. Organization within and between households in the fortified community of Yanaorco are compared with those in LIP communities elsewhere in the highlands.

Topic, John

[13] *Documentary Sources for the Study of Catequil*

While it would probably not have been feasible to attempt the study of Catequil without the Relación de los Primeros Agustinos, we have drawn on a wide range of documents to enrich our contextualization of the oracle. Chronicles, histories, visitas pastorales, civil actions, topographic maps, and even 20th century records of land sales have helped us to understand the landscape associated with the oracle in the Incaic province of Huamachuco (in the northern highlands of Peru), the history of its development and the diffusion of the cult to central Ecuador by the Inca emperor, Huayna Capac.

[73] *Discussant*

Topic, John [147] see Topic, Theresa

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

[147] *Huamachuco and Wari: Reading the Evidence for Contact in the North Sierra*
The Wari presence in the Huamachuco area is not one of imperial control. The unfinished site of Viracochapampa and a light scattering of Wari ceramics bespeak contact, but temporal priority of niched halls at Marcahuamachuco with human bone incorporated into the walls reverses the usually accepted direction of influence. The Wari presence in this part of the north sierra is short lived and ambiguous and probably related to Wari acquisition of prestige raw materials and finished goods. Northern patterns of ancestor worship and associated architectural patterns were adopted and transmitted by Wari agents.

Torre-Blanco, Alfonso [256] see Gonzalez-Oliver, Angelica

Torrence, Corbett (University of Vermont) and Theresa Schober (Town of Fort Myers Beach)

[148] *An Economic Frontier: Evolution of Settlement Patterns in Coastal Southwest Florida*
Changes in settlement patterns, mound architecture, and trade relations in the Caloosahatchee region reflect, in part, responses to broad-scale economic and political landscapes in eastern North America. Site level archaeological and radiocarbon data evidence punctuated mound building episodes and increased social integration that echo Hopewellian, Weeden Island, and Mississippian trajectories. By A.D. 900, small polities in dispersed, function-specific settlements give way to a conglomerated settlement pattern where large sites perform multiple functions. While processes of cultural change in the Caloosahatchee region have unique local expression, the timing of social transformation is linked to large-scale networks.

Torres, Constantino (Florida International University)

[179] *Darien Pendants: Evidence For The Use Of Visionary Mushrooms In The Northern Andes?*

This work analyzes the evidence for the use of visionary mushrooms in the Northern Andes. It begins with an evaluation of the information referring to visionary plants in Precolumbian times, with particular emphasis on mushroom use. It continues with a detailed study of Darién pendants; these objects provide the most suggestive evidence for the ritual use of mushrooms during the pre-Colombian period. It is proposed that this shamanic tradition entered Colombia from Mesoamerica as part of the exchange of technology and ideas ca. 100-500 A.D.

Torres, Fabiola [180] see Sugiyama, Nawa

Torres, Josh (University of Florida/SouthArc, Inc.) and Antonio Curet (The Field Museum)

[15] *Population Reorganization and Socio-political Change in the South-Central Coast of Puerto Rico*

Traditionally, changes in the archaeological record of Puerto Rico were interpreted as "natural" transitions from one culture to another. Later, variations in material culture through time and space were explained by using resource/population imbalance models, which served as an impetus for major socio-political re-arrangements. More recently, political models replaced these ecological based models and as a result useful demographic and environmental variables were discarded as relevant factors. In this paper we examine trends in population and settlement patterns in the South-Central coast of Puerto Rico, compare them with the resources available, and discuss potential socio-political processes that may have produced them.

Torres-Etayo, Daniel

[196] *Taínos en Cuba, ¿quimera o realidad?*

Resumen: La existencia de una notable variabilidad sociocultural en el área del Caribe Insular al momento de la conquista europea es una realidad que parece emergir de un análisis crítico de las fuentes documentales existentes. Sin embargo, diversos intereses

inicialmente colonialistas y posteriormente académicos se ocuparon de borrar esta variabilidad y ofrecer un cuadro homogéneo de estas sociedades. El trabajo analiza las características de este proceso a nivel teórico y sus consecuencias para la práctica arqueológica, en específico, en la delimitación de la llamada cultura Taína en Cuba, y ofrece una posible solución mediante el uso de las bases conceptuales derivadas de la Arqueología Social Latinoamericana.

[196] *Co-Organizer*

Torres-Gonzalez, Lillian (Benemerita Universidad Autonoma de Puebla)

[138] *From Sacred to Profane, From Illegal to Tradition: Prehispanic and Colonial Offerings in the Cities of Puebla and Cholula*

Offerings in the Mesoamerican worldview played an important role in the symbolic construction of the world. Offerings were the material expression of a societal request for protection, help, and above all, they expressed communication between the sacred and the earthly levels of the humankind. The archaeological discoveries of offerings in Puebla and Cholula provide insight on the symbolic meaning of the Mesoamerican worldview which survived through the Colonial period as sacred spaces. This paper focuses on the symbolic analysis of Prehispanic offerings associated with water and springs, as well as the ones found associated to colonial buildings.

Torres-Rouff, Christina (The Colorado College) and Kelly Knudson (Arizona State University)

[274] *Exploring the Relationship between Biological and Cultural Identity in Northern Chile: Biogeochemical and Bioarchaeological Research in San Pedro de Atacama*

Biogeochemical and bioarchaeological research in northern Chile illuminates the complex relationships between biological and cultural identity during the Middle Horizon (c. AD 500-1100) and subsequent Late Intermediate Period (c. AD 1100-1400). We combine cranial modification and mortuary data with enamel and bone isotope data from individuals buried in the San Pedro de Atacama oasis and the neighboring Loa River Valley site of Caspana to explore residential mobility in the region. These data elucidate how the inhabitants of this region constructed and manipulated their identities over time, both during and after the collapse of the powerful Tiwanaku polity to the northeast.

Tosi, Maurizio [241] see Tufano, Emiliano

Tostevin, Gilbert (University of Minnesota)

[29] *Flakes in the Round: combining a behavioral approach to attribute analysis with 3D geometric morphometrics*

The current methods for analyzing and publishing lithic morphological data should be updated to improve the correspondence between quantitative analysis and the anthropological question being asked of an assemblage. Accordingly, this paper investigates the analytical power and theoretical implications of two methods of analyzing debitage morphology: a behavioral approach to attribute analysis (Tostevin 2003) and geometric morphometrics (Lycett et al. 2006). Both methods are applied to a series of assemblages from Temnata Cave, Bulgaria, to investigate anthropological questions relevant to the Middle to Upper Paleolithic transition in Southeastern Europe.

Toth, Nicholas (Stone Age Institute) and Kathy Schick (Stone Age Institute and Indiana University (CRAFT Research Center))

[29] *Behavioral and geoarchaeological variables affecting lithic assemblages*

An experimental program in Mode 1 artifact manufacture was designed to assess the effects of variables that could potentially affect the nature of early lithic assemblages and their attributes. These included: 1) earlier vs. later stages of lithic reduction, 2) lighter vs. heavier degrees of reduction, 3) unifacial vs. bifacial flaking, 4) higher vs. lower quality raw materials, 5) "primary" vs. "secondary" site context and 6) preferential removal and transport of more useful artifacts. Results indicate that archaeologists need to assess these variables in order to appreciate the patterning and significance of these early lithic assemblages.

Towner, Ronald

[260] *The Early Navajo: Southern Athapaskans during the Protohistoric and Early Historic Periods*

Athapaskan speakers in the Southwest US include the Navajo and various Apache tribal groups generally surrounded by Puebloans and Uto-Aztecans speakers. One of the enduring questions in American Archaeology has been when and how these groups entered and thrived in the post-Anasazi Southwest. This paper uses archaeological, historical, and oral history data to discuss the ethnogenesis of the Early Navajo and the implications of these data for understanding Southern Athapaskan migrations and cultural differentiation.

Toyne, J. Marla [274] see Hewitt, Barbara R.

Trachman, Rissa (The University of Texas at Austin)

[267] *Productive Activity at the Microscale: Household Lithic Assemblages in Northwestern Belize*

This paper will address the analysis of lithic assemblages from a recent household investigation in northwestern Belize. The results of the analysis demonstrate a diversity in both materials consumed and tools created in households. Not only was this reflective of the productive activities of that household, but also the choices made by household members. Lithics are one aspect of material culture in which Maya households acted both within their community structure as well as outside of it.

[267] Co-Organizer

Trail, Brian

[135] *A Comparative Approach to Collapse: The Mycenaean and Anasazi Cases*

The collapse of complex societies has become a topic of increasing interest to archaeologists working in diverse regions of the world. While great strides have been made to explain this phenomenon, satisfactory approaches to collapse have yet to move beyond site or regional analyses to more comparative approaches. This paper bridges this gap and furthers the discourse on social transformations by focusing on Late Bronze Age/Early Iron Age Greece and Pueblo III/IV of the American Southwest through an examination of settlement patterns and hierarchy and degrees of connectedness between core and marginal areas within the interaction sphere.

Trammell, Joshua (U of U department of Anthropology), Christopher Parker (University of Utah Department of Anthropology), James O'Connell (University of Utah Department of Anthropology), Penni Borghi (BLM Surprise Valley Resource Area) and Susan Bush (University of Utah Department of Biology)

[173] *After the Fire: Thoughts on Pre-Columbian and Post-Apocalyptic Western North American Landscapes*

Ethno-historical accounts indicate that stands of economically important geophytes (roots and tubers) were managed through burning. In the Northwestern Great Basin, traditionally important geophytes are less common now than they were in the 19th Century. This may be partly due to the suspension of Native burning practices and the routine suppression of wildfires. Data from an experimental burn support this proposition. Here we discuss the results of this project designed to investigate the effects of fire on the distribution, size and abundance, nutritional characteristics, and ease of collection of one traditionally important geophyte food resource, *Perideridia gairdneri* (aka yampa, epos).

Trammell, Joshua [173] see O'Connell, James F.

Trask, Willa [197] see Schrag, Amber C.

Trein, Debora [47] see Houk, Brett A.

Treyvaud, Genevieve (université laval)

[189] *Technological Characteristics of Worked Copper Artefacts and Other Metals in the Western Arctic, Abitibi and Lac St-Jean in the North of Quebec*

Throughout the last two millennia several new technological innovations have appeared in the Arctic and North of Quebec. During late prehistoric times, along with the development of Thule culture for the Arctic and the Archaic and Woodland period for the Quebec, is where we observe the first use of native copper in the creation of tools for the native peoples. The copper originating from different rivers, such as the Yukon River or from others in the Northwest Territories for the Thule culture or the region of the Superior Lake, was intensively used and exchanged. We can also see a definite continuity with the late prehistoric archaeological artifact assemblages that represent a link between the late prehistoric period and the period of European influence.

Triadan, Daniela (University of Arizona), M. James Blackman (National Museum of Natural History, Smithsonian Institution) and Ronald L. Bishop (National Museum of Natural History, Smithsonian Institution)

[297] *The Ritual Termination of the Royal Palace at Aguateca: Sourcing the Ceramics*

The Late Classic Maya city of Aguateca was attacked and rapidly abandoned around AD 810 and its royal palace complex ritually terminated. Compositional analyses of ceramics from these termination deposits provide new insights into these rituals and the nature of the attack.

Trieu Gahr, D (Southern Illinois University At Carbondale)

[142] *The Role of Plant Resources in Contact Era Land Use Patterns along the Lower Columbia River*

There are numerous reports of devastating effects on native plant populations in the Lower Columbia River Valley following the introduction of exotic crops, weeds, and herbivores. However, the effects on this ecosystem resulting from contact era changes in Native people's plant resource use and land use patterns have been little studied. Nevertheless, contemporary land management decisions and restoration efforts are based on assumptions about these past landscapes. This study uses archaeobotanical evidence together with ethnographic and ethnohistoric sources to better understand how contact era dynamics may have affected local landscapes.

Trigg, Heather (Department of Anthropology) and Susan Jacobucci (University of Massachusetts)

[130] *Urbanization and Human Parasites: Implications for Health and Society in Historic Communities*

In both archaeological and modern epidemiological studies, parasite loads have been linked with health and socio-economic status of the human hosts. This research examines the proportions of the two most common parasites (*Ascaris* and *Trichuris*) recovered archaeologically. Data from historic privies in the urban northeast United States suggests a shift in importance through time from relatively benign *Trichuris* to the more damaging *Ascaris*. This change appears to correlate with increasing urbanization and result from the drier environment that characterizes cities. This has implications for understanding the differential impact of parasites on the lives of urban and rural poor.

Tringham, Ruth (Univ of California-Berkeley) and Mirjana Stevanovic (Stanford University)

[276] *Creating the Life-History of Building 3 from the biographies of People, Places and Things*

Building 3 at Çatalhöyük was excavated by a team from the University of California, Berkeley (BACH), who now tell their story, integrating the prehistoric life-history of Building 3 with the life-history of the BACH project itself. The biography of the building is constructed on the basis of architectural, burial, ecofactual and artifactual data, which all have biographies that can be constructed at various scales. We have defined 5 major phases in the history of Building 3. The criteria by which these are defined and the events that may have triggered these transformations in the building's historical trajectory are discussed.

[247] *Moderator*

Tripcevich, Nicholas

[190] *Llama caravan transport: A study of mobility with a contemporary Andean salt caravan*

Llama caravans are widely believed to have been a principal means of carrying goods and information between remote communities in the prehispanic Andes. This presentation will describe a 14 day journey with a salt caravan in southern Peru that travels approximately 200 km round trip to a distant valley to exchange rock salt for agricultural goods. We focused on the transportation of cargo, trail conditions, GPS travel speed, and associated social aspects of this mode of transport. This research is meant to complement our understanding of long-distance interaction and exchange in prehistory where non-local goods like obsidian are distributed regionally.

Tripkoviæ, Boban [241] see Milic, Marina

Trnka, Gerhard [94] see Nigst, Philip R.

Trost, Teresa (Cascadia Archaeology) and Randall Schalk (Cascadia Archaeology)

[230] *Patterns of Fish Usage at a Late Prehistoric Puget Sound Shell Midden*

Increasing resource specialization is a generally recognized trend in late prehistoric subsistence systems of the Northwest Coast. In the Northern Puget Sound region, measurement of temporal change in fish exploitation has been thwarted by the scarcity of reliable faunal assemblage data from coastal sites of different age and function. This paper examines fish remains from the Cama Beach shell midden spanning the interval from 300 to 1600 yrs. B.P.

Trowbridge, Meaghan (University of Arizona)

[4] *Feasting at the Greatest of Great Houses: Implications of the Black-on-White Bowls from the Pueblo Bonito Trash Mounds*

Feasting can have both social and political implications. Previous work at the Chacoan great house Pueblo Alto proposed that deposition of material in the trash mound indicates periodic gatherings or feasts (Toll 1985). Indicators of feasting include unusually large serving vessels (Hayden 2001) and a bimodal distribution of bowl sizes (Potter 2000). This study investigates the distribution of black-on-white bowl diameters from the trash mounds of Pueblo Bonito, the largest great house in Chaco Canyon. Distributions are unimodal not bimodal, but there are many large-sized bowls, exceeding the mean diameter of whiteware bowls from Pueblo Alto and indicating feasting.

Trudel, Stephanie, Dennis Lewarch (Suquamish Tribe) and Leonard Forsman (Suquamish Tribe)

[122] *"Pulling" It All Together: Incorporating Suquamish Tribal Data Into An Archaeological Sensitivity Model of Kitsap County, Washington*

The Suquamish Tribe developed an archaeological sensitivity model of Kitsap County, Washington, using environmental data, estimated transportation cost surfaces, recorded traditional cultural places, oral history data, and distribution of recorded archaeological sites in the Puget Sound region. Data from the Suquamish Tribe provided an important foundation for the sensitivity model. Water-borne transportation routes figured heavily in ethnographic period settlement patterns of the Suquamish Tribe. Information from contemporary Tribal canoe "pullers" on canoe journeys was combined with tide, wind, and marine current data to estimate transportation cost surfaces along the marine littoral of Kitsap County.

Tsai, Howard (Museum of Anthropology)

[73] *Vertical Archipelago Revisited: Testing Murra's Fourth Case in the Middle Jequetepeque Valley, Peru*

Data from the archaeological site of Las Varas demonstrate the presence and nature of interaction between the north coast and the Cajamarca region of Peru. Las Varas dates to the Late Intermediate Period (AD 1000-1460) and is located in the Middle Jequetepeque Valley, an intermediary area connecting the coastal empire of Chimú and the highland

kingdom of Cajamarca. Excavations at Las Varas have uncovered highland-style architecture, tombs, and ceramics. Evidence for interaction with coastal communities includes coastal-style ceramics and marine shells. Murra's model of vertical archipelago with be examined using the results from Las Varas.

Tsang, Cheng-hwa (Institute of History and Philology Academia Sinica Taipei, Taiwan, ROC)

[226] *Cross-Taiwan Strait Interactions of the Neolithic Period*

As a stepping stone between the Asian Mainland and the Pacific islands, and its potential of linking prehistoric cultures and modern Austronesian-speaking societies on the island, Taiwan has long been recognized as a pivotal area for investigating the dispersal of the Austronesian peoples and languages from South China into the Pacific. Many have seen interregional interaction as one of important cultural processes in the spread of Austronesian-speaking cultures. This paper discusses the cross-Taiwan Strait interactions during the Neolithic period by examining some new archaeological findings from Taiwan and the southeast coast of China.

Tsosie, Neomie [132] see Thompson, Kerry F.

Tsouras, Theodore

[317] *Culture, Climate, and Landscape: Local Settlement Change at Merrill Crater*

Based on data from a 2200 acre full-coverage survey, this research examines correlations between spatial, typological, cultural, paleo-climatic, and temporal aspects of prehistoric site distribution at Merrill Crater. Mean ceramic dating, temperature/precipitation reconstructions, and GIS spatial analysis provide new information on localized changes in settlement patterns and landscape use over time. Located 25 miles East of Flagstaff, Arizona, inside the culturally and volcanically dynamic ashfall zone of Sunset Crater, the survey area contains both Sinagua and Ancestral Puebloan sites.

Tsukamoto, Kenichiro

[171] *Classic Maya Urban Planning: Placement, Elevation, and Visibility*

The placement, elevation, and visibility of monumental structures were crucial elements for urban planning in the Maya Lowlands. The ruling elites manipulated these key components to create and transform their built environments. The systematic survey, detailed topographic mapping, and spatial analyses using GIS at the Classic sites of El Resbalón and El Palmar, Mexico, revealed the spatial relationship between pyramidal temples within a single architectural group as well as distant groups. I will examine how Maya urban planners designed their sacred spaces, isolating them from surrounding areas that were inhabited by commoners.

Tuck, Patricia (Agua Caliente Band of Cahuilla Indians)

[7] *Pan ox su: The Archaeology of Deep Canyon*

This poster examines prehistoric settlement patterns within Deep Canyon (Pan ox su), a transitional area linking the Santa Rosa Mountains and the Colorado Desert. Boyd Deep Canyon Desert Research Center is one of 35 reserves in the University of California's Natural Reserve System. This study employs GIS spatial analysis to illustrate spatial patterns and distributions of Cultural Resources in regards to distance to resources, soil type, regional slope and elevation. Research goals include a thorough examination of the relationship between site location, ecological zone, drainage catchments and geomorphology.

Tuck, Patricia [212] see Milanovich, Sean

Tufano, Emiliano (University Suor Orsola Benincasa Naples (Italy)), Barbara Vargo (Dewberry & Davis, LLC), Maurizio Tosi (Università di Bologna), Robert Tykot (University of South Florida) and Sebastiano Tusa (Soprintendenza della Regione Sicilia)

[241] *Prehistoric Exploitation of Pantellerian Obsidian*

Pantelleria island is one of four Italian obsidian sources. A careful survey allowed us to

identify two unknown sources on the high cliffs in the southern part of Island, exactly at Cala della Polacca and Faraglione di Dietro l'Isola, and to locate the sources previously discovered at Balata dei Turchi, Salto la Vecchia, and Lago di Venere. In addition, analyses by ICP-MS of 80 finds from archaeological sites at Mursia and Lago di Venere provide information on which were the sources exploited from prehistoric inhabitants of Pantelleria, drawing interesting data about the supply and selection of raw material.

Tun Ayora, Gabriel [97] see Ensor, Bradley E.

Tung, Burcu [276] see Boz, Basak

Tung, Tiffiny (Vanderbilt University, Department of Anthropology)

[134] *Performative Violence in the Wari Empire of the Peruvian Andes*

Iconographic images of violence coupled with the display of human bodies and body parts create and narrate stories of violence, and in the Wari empire of the ancient Andes, these performative acts served to celebrate and perhaps normalize violent behaviors. As this ideology was continually reified (as evidenced through head injuries and dismembered bodies), these very actions recursively legitimated the performance and promotion of aggression and violence. Thus, in this study, violent acts themselves are viewed as both responsive to, and generative of, the factors that shape and condition violent behaviors.

Tung, Tiffiny [178] see Ochatoma Paravicino, Jose

Tupa, Amy (California State University Long Beach), Hector Neff (California State University Long Beach) and Myles Miller

[126] *El Paso Brownware Temper Sourcing*

A powerful tool in understanding ceramics in archaeology is the ability to source materials. In El Paso Brownware, temper has yet to be fully addressed. Petrographic studies have indicated granite as the temper material for El Paso Brownware, despite proximity to other igneous formations common to the area (quartz monzonite, syenite). In this study we aim to source the temper of ceramic vessels from the Jornada Mogollon pueblo by comparing the temper to the mineral constituents of rock samples including quartz monzonite, Red Bluff granite, and syenite, the three main igneous rock materials in the area.

Turck, John

[113] *Archaeological Survey and Geomorphological Analysis of Back-Barrier Islands on the Coast of Georgia, U.S.A.*

Back-barrier islands- landforms of higher elevation located within tidal marshes between barrier islands and the coastal mainland- have not been a major focus of archaeological research. On the coast of Georgia, most back-barrier islands have had no systematic, intensive archaeological surveys, and the little research that has been done has focused on shell-bearing sites. It is proposed that to understand how back-barrier islands fit into human coastal settlement/ subsistence systems, systematic shovel testing and geomorphological analysis should be carried out.

Turkon, Paula, Ben Nelson and Michelle Elliott (Arizona State University)

[204] *Food Production and the Development of Elite Control in the Malpaso Valley*

In semi-arid regions where agricultural land and water are not abundant, control of food production resources and harvest are likely to be important foundations of elite power. This paper distills the mounting botanical, geoarchaeological, chronological, and settlement evidence to propose a model for food production in the Malpaso Valley of northern Mesoamerica. Exploration into how people were provisioned addresses some important and unresolved issues, such as the degree of elite control in the valley and the various effects of climate change, human impacts, and interregional interactions on the development of the short-lived, but intense Epi-Classic occupation.

Turnbow, Christopher (Office of Contract Archeology, UNM) and Alexander Kurota (Office of Contract Archaeology, University of New Mexico)

[46] *The Scorpion Site: An Early Doña Ana Phase Farming Settlement in Southern New*

Mexico

The Scorpion site (LA 119530) consists of a dispersed Early Doña Ana phase (AD 1000-1150) farming settlement established on the alluvial fan of the Sacramento Mountains in the Tularosa Basin. Excavations suggest a growing intensification and increasing specialization of agricultural production coupled with shifts in land use and residential mobility during this little known period. Based on their shallow structures, limited storage capacity; and low artifact frequencies, occupations probably did not continue into the colder months. As such, the habitations probably represent seasonal farmsteads or hamlets abandoned for more permanent winter villages after the harvest.

Turner, Bethany (Emory University Dept. of), John D. Kingston (Department of Anthropology, Emory University), Lucy C. Salazar (Peabody Museum of Natural History, Yale University) and Richard L. Burger (Peabody Museum of Natural History, Yale University)

[274] *Marked variation in subsistence at Machu Picchu, Peru revealed through stable isotope analysis*

This study explores recent hypotheses that the resident population at Machu Picchu, Peru (AD1450~1570) was drawn from diverse backgrounds. Carbon and nitrogen isotopic analyses from tooth dentine and enamel suggest substantial variation among the population in diet during early life, pointing to variation in subsistence practices. In addition, pathological conditions assessed against isotopic data suggest variation in exposure to environmental and dietary stressors during early life. These results cast new light on the demographic heterogeneity in this population, and the assumed social class of its constituents. These results also provide new insights for interpreting skeletal pathology in the Andes.

Turner, Jocelyn C. [129] see Munson, Cheryl Ann

Tuross, Noreen [168] see Hinman, Miriam R.; [110] see Warinner, Christina

Turton, Charles and John McAndrews (Department of Ecology and Evolutionary Behaviour and department of Geology, Univ)

[127] *Fossil fungal spores in Crawford Lake, Ontario, linked to Iroquoian farming CE 1300-1500*

Canada Geese fed in Iroquoian cornfields and than roosted on Crawford Lake where they deposited dung pellets. Preserved pellets have concentrations of corn, bean, sunflower and squash pollen, weed seeds and spores of fungi, many of which cause crop diseases, such as corn smut, bean and corn rust. Did Iroquoians burn or abandoned fertile fields?

Tusa, Sebastiano [241] see Tufano, Emiliano

Tushingham, Shannon (University of California-Davis) and Robert Bettinger (UC Davis)

[202] *Affluent Anarchy: Hunter-Gatherer Intensification in Northwestern California*
While groups throughout the Pacific Northwest shared much in common, northwestern California is rightly set apart as different from the "developed" or "core" area. Houses were smaller, households were family (not corporate) based, polygyny was sororal (not outgroup or alliance seeking), and redistributive ritual (e.g., potlatch) was absent. Centered on individual property rights and money-use, the northwestern California system achieved population densities and levels of affluence rivaling those of the classic Pacific Northwest, but more cheaply, without the cumbersome and costly sociopolitical organization that mobilized intensive production there. Clearly, organizational complexity is not a necessary prerequisite for hunter-gatherer intensification.

Tütken, Thomas [35] see Grimes, Vaughan H.

Tveskov, Mark (Southern Oregon Univ)

[249] *Holocene Environmental Change and Human Response in Southwest Oregon*
Southwest Oregon lies across the boundary of the California, Great Basin, and Northwest Coast physiographic provinces of North America and has ecological, environmental, and

geological characteristics in common with each. In this paper, I review archaeological and ethnohistoric data that provide insights into how Indian people of the region, over the course of the Holocene, responded to a climate and landscape that was highly dynamic on a variety of time scales and amplitudes—from dramatic changes in the seasonal and spatial availability of staple resources, to periodic El Nino events, to periodic Cascadia Subduction Zone earthquakes massive in scale. The evidence foregrounds the complexity and challenges of how a society politically organized beyond the household level can conceptualize and respond to the challenges of climate change.

Twiss, Katheryn [276] see Bogaard, Amy M.

Tykot, Robert (University of South Florida)

[241] *Obsidian Trade in Northern Italy*

While many obsidian sourcing studies have been done in the last 20 years for the Central Mediterranean, little has been done for the neolithic period in northern Italy. In this paper, analytical results are presented for a statistically significant number of samples (273) from Isola del Giglio, Gaione, and Poggio Olivastro. The data now available represent the time periods from when obsidian trade began (Early Neolithic) to its peak (Middle-Late Neolithic) and subsequent decline. The patterns of obsidian source and subsource usage revealed provide new interpretations of long-distance obsidian trade and overall socioeconomic practices in this region.

[272] *Discussant; [241]* see Tufano, Emiliano; [274] see Berryman, Carrie Anne

Uchiyama, Junzo (Research Institute for Humanity and Nature)

[15] *Why Jomon Shell Middens Disappeared: A Consideration of Cultural Changes in Complex Foraging Societies*

Large shell middens are a salient characteristic of Japanese Jomon foraging culture, which lasted from 15,000 to 3000 BP. Middens were often accompanied by socio-political indicators such as residential and burial pits. However, the generation of shell middens is not a persistent phenomenon throughout the period, with middens disappearing from the record anywhere within the Middle Phase and Final Phase (5500 to 3000 BP) in various regions. Comparing shell midden disappearance between the eastern and western parts of the Japanese islands, this paper discusses the implications of this process in relation to societal changes in prehistoric foraging societies.

Uebelacker, Morris [128] see Lubinski, Patrick; [278] see Vrem, Darin W

Ugan, Andrew (University of Utah)

[57] *Cooking and Survivorship of Lepus californicus Skeletons in a Great Basin desert: Experiments and Implications*

Twenty-six black tailed jackrabbits (*Lepus californicus*) were shot, cooked, and consumed: half by roasting, half by boiling. Remains were unceremoniously dropped in random locations around Utah's Sevier Desert and the survivorship of elements measured after two weeks. Initial survivorship of all elements was low regardless of treatment, uncorrelated with bone density, and three times higher in boiled versus roasted animals. Possible implications of these data for interpreting middle Holocene archaeofaunal records in the arid West are discussed.

Ullah, Isaac (ASU, School of Human Evolution and Social Change), C. Michael Barton (ASU School of Human Evolution and Social Change), Gary Mayer (ASU School of Computing and Informatics) and Hessam Sarjoughian (ASU School of Computing and Informatics)

[137] *Ancient Mediterranean landscape dynamics: hybrid agent and geospatial models as a new approach to socioecological simulation*

Studies of long-term human-environmental interaction are gaining recognition beyond the archaeological discipline for their relevance to today's pressing global issues. Combined agent and geospatial modeling supports simulated experiments that can help describe and analyze the complexities of these socioecological systems. Agent modeling provides a feature-rich environment for describing the relevant aspects of social dynamics. Creating a

hybrid model, which combines agent models with geospatial models optimized for requisite large spatial and temporal scales, offers an exciting new approach to simulating human-environmental interaction. Working with data from Spain and Jordan, the Mediterranean Landscape Dynamics project offers examples of this new technique.

Ulloa Hung, Jorge [240] see *Cooper, Jago*

Umbelino, Claudia [186] see *Bicho, Nuno F.*

Umberger, Emily (Arizona State University)

[134] *Coyolxauhqui's Body*

The Great Coyolxauhqui Stone, depicting the stripped and dismembered body of the Mexica patron god's enemy sister, was carved at the time of the Mexica Civil War between the twin cities of Tlatelolco and Tenochtitlan. The first great masterpiece in the new Aztec imperial style, it was also an ideational tour-de-force, bringing together numerous political metaphors of morality and rulership, all focused on the body itself, its location, pose, accoutrements, and even gender.

Underhill, Anne [24] see *Cunnar, Geoffrey E.; [226]* see *Nizialek, Lisa C.*

University of Alaska Anchorage, David Yesner [275] see *Easton, Norman A.*

Ure, Scott [81] see *Searcy, Michael T.*

Uribe, Mauricio (Departamento De Antropologia Universidad De Chile)

[157] *Ceramica y complejidad social en la quebrada de Tarapaca (Chile): Avances sobre el período formativo y el horizonte medio*

Esta ponencia refiere al material cerámico de los valles, oasis y costa de la Pampa del Tamarugal, específicamente de la quebrada de Tarapaca. Nuestro objetivo es sistematizar estudios anteriores, en curso y de otros investigadores acerca de su cerámica para actualizar la historia cultural y los procesos sociales de este territorio aun poco conocido entre Arica y Atacama. El análisis cerámico de diversos asentamientos a lo largo de la quebrada, permiten identificar una tradición que nació en el Formativo y que se desarrolló sin mayores influencias Tiwanaku, hasta integrar elementos del Altiplano recién hacia el Intermedio Tardío.

[157] *Co-Organizer*

Uribe, Mauricio [157] see *Retamal, Rodrigo R.*

Urton, Gary (Harvard University)

[178] *Information as a scarce resource in the Inka Empire: Class, Status and Power in the Production and Control of Khipus*

Inka administration depended on the production, storage and manipulation of knotted-string records - the khipus - by individuals designated to perform these tasks at different levels in Inka society. How did khipu production, control and manipulation from local communities to provincial centers to the capital relate to class formation and status in the Inka state? This paper argues that, in addressing this question, we must consider not only a Marxian perspective on the hierarchical relations emerging from unequal control of and access to information, but as well a Foucauldian perspective on the power-knowledge produced and reproduced in state administrative institutions and practices.

[13] *Discussant*

Urunuela, Gabriela (Universidad de las Americas) and Patricia Plunket (Universidad de las Américas, Puebla)

[138] *Life in the City: The Figurines of Early Urban Cholula*

In certain regions of Mesoamerica, like Oaxaca, human figurines almost disappear as emerging urban elites and religious bureaucracies appropriate many of the domestic rituals that previously employed these artifacts. In the western Puebla Valley, however, figurines continued to play an active role in city life at Cholula. Although few primary contexts are

available to aid in their interpretation, we can examine the themes and concepts that concerned the urban population by characterizing the nature of human representation during the first centuries of the Classic period at the holy city.

Usman, Aribidesi (Arizona State University)

[15] *Understanding urban trajectory and sociopolitical formation on the Yoruba frontier, Central Nigeria*

Archaeological research in Africa now examines dynamics of change in past societies, and in urban sites and their peripheries. The archaeological sequence and cultural history of areas between political centers are also increasingly relevant. The period from 1400-1600 AD was one of regional socio-political changes in the Yoruba and Edo worlds. The spread of sociopolitical and material culture innovations in the periphery was mediated through population movements, inter-societal networks of elites, economic relations and cultural imitations. Archaeological and ethnohistorical data from Northern Yoruba are used to describe the impact of regional socio-political and economic developments on frontier societies.

Vail, Gabrielle (New College of Florida)

[79] *Cosmos and Creation among the Late Postclassic Lowland Maya*

Hieroglyphic texts and iconographic programs from Late Postclassic painted Maya sources contain references to celestial bodies and astronomical events of importance in Maya creation mythology. The present study considers murals from Santa Rita Corozal and almanacs from the Paris Codex that depict cosmological events that can be attributed to the mythological era. Comparisons between the two sets of paintings offer a new understanding of the link between celestial observations made by the prehispanic Maya and their perception of the world, i.e., how it was formed and peopled and the playing out of these events in the nighttime sky.

[79] *Chair*

Valcarcel Rojas, Roberto [319] see *Knight, Vernon*

Valcárcel Rojas, Roberto [240] see *Cooper, Jago*

Valdez, Fred (University of Texas At Austin), Duncan Pring (London, England), Laura Kosakowsky (Univ. of Arizona) and Lauren Sullivan (Univ. of Mass. - Boston)

[181] *The Earliest Ceramics of Belize: A Comparative Analysis*

Ceramics identified as the earliest (chronologically) in Belize are reviewed and discussed. Swasey and Bolay are the earliest ceramic complexes for northern Belize while Cunil is the earliest ceramic complex from the Belize Valley. The present evaluation and consensus is that the central Belize ceramic material (Cunil), is the earliest pottery for Belize, and currently the earliest defined complex for the Maya lowlands. The Swasey-Bolay ceramics are compared and contrasted with the Cunil ceramics. Similarities and differences for the two regions are discussed in terms of chronological developments, typology, and context.

[234] *Discussant*

Valdez, Fred [56] see *Buttles, Palma*

Valentin, Norma (Instituto Nacional de Antropología e Historia) and Osiris Quezada (Museo del Templo Mayor)

[74] *La ofrenda 102 del Templo Mayor de Tenochtitlan: un ejemplo de la interdisciplinariedad*

En el Proyecto Templo Mayor se ha planteado la participación sistemática de diversos especialistas que, en coordinación con los arqueólogos, incrementan el conocimiento de la cultura mexica. La abundancia de restos orgánicos han sido motivo de la colaboración de biólogos cuya interacción ha permitido un mayor conocimiento de la relación del pueblo mexica con su entorno. En el presente trabajo lo anterior se ejemplifica con el proceso de excavación de la ofrenda 120, en donde importante información se ha obtenido gracias a la colaboración de biólogos y arqueólogos.

Valentin, Norma [74] see *Gallardo, María De Lourdes*

Valentine, Benjamin, George Kamenov (University of Florida) and John Krigbaum (University of Florida)

[99] *Refining Heavy Stable Isotope Analysis in Neolithic Borneo with Stable Isotopes of Carbon and Oxygen*

Isotopic data from Neolithic human tooth enamel from Niah Cave (Sarawak, Malaysia) suggest primarily terrestrial 'dietary catchments' with a potential seasonal component. Of 43 individuals sampled from two contemporary sites at Niah, West Mouth and nearby Lobang Jeragan, 19 have strontium values that overlap with those of seawater thus hindering spatial analysis. In the absence of preserved bone collagen, stable isotopes of carbon at both sites show heterogeneity of isotopic values that implies a terrestrial strontium source. Additionally, stable isotopes of lead, when compared to the oxygen isotope data, may suggest a relationship to regional weather patterns.

Van Baelen, Ann (K.U.Leuven) and Philip Van Peer (K.U.Leuven)

[159] *Social organisation of early Middle Palaeolithic lithic technology at Veldwezelt-Op de Schans (Limburg, Belgium)*

Recent research at the loam quarry of Veldwezelt-Op de Schans (Belgium) led to the discovery of 3 small clusters of lithic artefacts in primary context, scattered on the same old landsurface. Situated in the flint-rich region of the Meuse basin all three assemblages exemplify an ad hoc fashion of the spatial organisation of production activities, demonstrating the presence of a limited number of partial reduction sequences. These assemblage constellations solicit a reflection on the social organisation of lithic technology in early Middle Palaeolithic times and on the nature of lithic variability, in particular the role of individual knapping skills.

van Broekhoven, Laura [240] see Geurds, Alexander

Van Buren, Mary [248] see Cohen, Claire R.

Van Der Leeuw, Sander (SHESC)

[289] *Achieving sustainability: the role of archaeology*

Archaeology is the only discipline that is able to provide us with data on, and insights in, the long-term co-evolution of the socio-environmental system. Virtually all archaeological work pertains to issues of sustainability (in the widest sense) in one way or other; we have the interdisciplinary skills and we have a long-term perspective. The funding is coming on stream. Yet, the discipline has not mobilized to meet this challenge which is so important for the survival of our societies. Why? This paper looks at some of the intellectual and other challenges that need to be overcome.

[261] *Discussant*

Van Dyke, Ruth (Colorado College) [266] *Discussant* [55] *Discussant*

Van Gijn, Annelou (Leiden University)

[24] *The importance of plant-based craft activities: an experimental approach*

Use-wear analysis of prehistoric tools is especially useful where it concerns the detection of activities that are otherwise generally invisible to us as basket making and fibre processing. Unfortunately the variability in wear trace attributes rarely allows for an exact reconstruction of the tasks involved. However, systematic experimentation with replicas of prehistoric tools enables us to make detailed inferences about the use of Late Mesolithic and Neolithic flint, bone and antler implements involved in plant-based craft activities. This information is important for a better understanding of the Neolithization process in the wetlands of the present-day Netherlands.

Van Gijseghem, Hendrik (Université De Montréal) and Kevin Vaughn (Purdue University)

[98] *8 Questions about Nasca 1: Seamless Transition or Watershed Interval?*

In the archaeological literature of the Peruvian south coast, the term "Nasca 1" alternately refers to a time period, a ceramic style, and a social group. Undeniably linked with Topará

culture, but also with Paracas, it foreshadows the genesis of early Nasca culture, possessing some of its features but lacking others. Here we examine the concept of "Nasca 1" by pointing out essential areas of uncertainty. We evaluate, among other things, whether Nasca 1 can justly be considered a seamless transitional period between the Formative and the EIP, or a dynamic, turbulent interval characterized by cultural exchange, competition, and innovation.

[98] Co-Organizer

Van Gilder, Cynthia (St. Mary's College of California) [166] Discussant

Van Keuren, Scott (University of Vermont)

[228] *Did Red Ware Pottery Symbolize Religious Ideologies? The View from Eastern Arizona*

Painted pots symbolize religious beliefs in many ways – via designs, by marking identity, and through their use, presentation, and even discard. Archaeologists have long assumed that the iconographic designs of fourteenth century bowls are windows into the semantics of Ancestral Pueblo ideologies. I critically assess this assumption through a survey of red ware bowls produced and circulated in eastern Arizona during the 1300s. I do not reject the use of pottery as an analytical tool for inferring ideological concepts, but rather call attention to the complex ways in which highly visible containers encode information about ancient religions.

[228] Co-Organizer

Van Peer, Philip [159] see Van Baelen, Ann

Van Pool, Todd (University of Missouri) and Christine VanPool (University of Missouri-Columbia)

[228] *War, Women, and Religion: The Spread of Salado in the US Southwest*

The Salado religion spread across the US Southwest during the 13th and 14th centuries. It was associated with distinctive pottery that was part of an Earth fertility cult developed during massive migration into the area. Many of the migrants were female war refugees and their children fleeing intense violence to the north. The influx of refugees into pre-existing communities created intense female-female competition. Here I argue that the Salado religion reflects religious innovation by females aimed at mitigating this conflict. Pottery, a significant female economic contribution, became the means of expressing the Salado system and symbolizing female integration and unity.

Van West, Carla [108] see Altschul, Jeffrey H.

VanDerwarker, Amber M. [279] see Peres, Tanya M.

Vanniere, Boris [14] see Arnauld, Charlotte

VanPool, Christine (University of Missouri-Columbia) and Todd VanPool (University of Missouri-Columbia)

[34] *Veneration of Charles C. Di Peso: Religious Symbolism and the Plumed Serpent at Paquimé*

Di Peso believed that Toltec Puchteca (traders, warriors, and priests) founded Paquimé. The Puchteca had numerous priesthoods, but Quetzalcoatl was preeminent. Paquimé's redating demonstrated that it is too late to be founded by Toltecs, which in turn caused the dismissal of DiPeso's ideas regarding its religion. Newer schemes invoke everything from priests to shamans to caciques, but they uniformly acknowledge the plumed serpent's importance. Elsewhere in Mesoamerica, the pochteca model (the connection between traders and feather serpents) predates and postdates the Toltec and possesses flexibility in its local expression. We consequently proposed that DiPeso's ideas be reconsidered.

VanPool, Christine [228] see Van Pool, Todd L.

VanPool, Todd [126] see Davis, Lauren E.; [34] see VanPool, Christine S.

Vantine, Launi [188] see Lee, Morgan E.

VanValkenburgh, Nathaniel (Harvard University) and Jeffrey Quilter (Harvard University)

[232] *Continuity and Transformation in Indigenous Households During the Colonial Period: Recent Insights from Magdalena de Cao Viejo, Peru*

The excavation of two colonial period domestic structures at the site of Magdalena de Cao Viejo, in Peru's coastal Chicama valley, provides unique insight into the organization of indigenous household life during the late 16th and early 17th centuries. Native social units were reconfigured as the Spanish imposed new grid-planned settlements, a legal regime of fixed land tenure, and Catholic ideologies of family life on local populations. However, Magdalena's residents appear to have adapted traditional practices to order and sanctify their novel dwelling spaces in meaningful ways.

Vargas, Benjamin [114] see Douglass, John G.

Vargiu, Rita [99] see Coppa, Alfredo

Vargo, Barbara [241] see Tufano, Emiliano

Varien, Mark (Crow Canyon Archaeological Ctr)

[175] *Early Agriculture in the northern San Juan Region: The Basketmaker II-III Transition*

One area of research developed by R.G. Matson concerns the Basketmaker II period in the northern San Juan region of the southwestern U.S. His research has been particularly important in identifying the processes involved in the adoption of agriculture and in clarifying the issue social identity and cultural diversity during this era. This paper summarizes Matson's work on these questions and addresses two related and important new questions: what is the relationship between Basketmaker II and Basketmaker III settlement in the northern San Juan region and how do we account for the dramatic increase in population during this period?

Varney, R. (Paleoresearch Institute), Linda Scott Cummings (Paleo Research Institute) and Reid Bryson (Center for Climatic Research)

[224] *Colorado Climate and Humans: An Animated Model of Paleoenvironmental Changes*

Archaeoclimate models for 118 weather stations in Colorado were constructed and assembled into an animation of climate for the last 14000 RCYBP at 200 year intervals. This animation addresses distribution of precipitation/temperature throughout the year. Radiocarbon dates from the Colorado State Historical Preservation office are overlain on the animated models to observe relationships between climate and humans.

[224] Co-Organizer

Vasil'ev, Sergey (IIMK)

[245] *The Earliest Alaskan Archaeological Record: A View From Siberia*

The paper deals with the comparative study of the Siberian and Alaskan Final Pleistocene adaptations, covering different facets of archaeological evidence. The sites of Alaska were ascribed to different culture traditions (Nenana, Denali, and Northern Paleoindian complexes) thus reflecting several migration waves. Meanwhile the analysis reveals more complex character of the record. A number of factors shaping both inter- and intra-assemblage variability should be taken into account. Several alternative hypotheses striving to explain the variability have been proposed and confronted against the data at hand.

Vasquez, Cecilia (University of Pittsburgh)

[200] *Chilma: A Pasto Enclave in the Western Piedmont*

Chilmá is an archaeological village located in the Western Piedmont of the Pasto territory (Northern Ecuador and Southern Colombia) that is thought to have controlled extraregional trade from the Coast to the Highlands. The reconstruction of Chilmá local community shows a developed agricultural economy that allowed them to maintain ties with the elites

residing in the Highland regional centers such as Tuza, Tulcán, Huaca and Cuasmal. Information drawn from ethnohistorical and archaeological research indicates constant movement of utilitarian and prestige goods. The archaeological survey and excavation of a sample of households have produced data to understand the Pasto chiefdom regional economy.

Vaughn, Kevin (Central Washington University) and Patrick McCutcheon (Central Washington University)

[219] *Lithic Variability in Upland Sites in Mt Rainier National Park, Washington*
The variation of the technological and functional traits of the Tipsoo Lakes Site (45PI406) lithics does not adhere to expectations generated by existing land use models for the region, which stipulate that increased variability in lithic raw material should be concomitant with residential features and heavy tools. In order to address this discrepancy we compare the distribution of technological and functional traits to three recently analyzed assemblages from across the region. The inter-assemblage comparison demonstrates that variability of prehistoric land use is not only tied to environment but also raw material availability, which also affects the lithic variability.

Vaughn, Kevin (Purdue University), Jelmer Eerkens (University of California, Davis) and Moises Linares (Lima, Peru)

[88] *Hematite Mining in the Ancient Andes: Mina Primavera, A 2000 Year Old Peruvian Mine*

We report Mina Primavera, a hematite mine in the Nasca region, Peru exploited by the Nasca and Wari civilizations. Despite the importance of hematite in the prehispanic Americas little work has focused on mining activities in the Andes, and few mines have been reported. Excavations in Mina Primavera demonstrate extensive prehispanic mining of hematite, likely used as a pigment for painting pottery. Our work demonstrates that iron ores were systematically extracted at an early date in the Americas and reveals important clues about the organization of mining by the ancient people of the Andes.

Vaughn, Kevin [172] see McCutcheon, Patrick T.; [98] see Van Gijseghem, Hendrik

Vega-Centeno, Rafael

[73] *Ritual buildings, identities and interactions. New approaches on the distribution of the Late Archaic architectural traditions*

The recent finds in the Supe, Pativilca, and Fortaleza Valleys, have allowed the definition of architectural patterns of the Late Archaic Period (3000-1800 B.C.) that coexisted with well-known highland traditions like the Mito Tradition. Several authors have made a comparison between coastal and highland ritual buildings, noting their differences and suggesting different levels or types of social organization. A more thorough comparison of these traditions, as well as the finds of "Mito-like" buildings in coastal architectural complexes in coexistence with other types reveal a more dynamic scenario, where architectural patterns are reproduced in different ways according to socio-political requirements.

Velazquez, Adrian (INAH)

[198] *Experimental Archaeology in Mollusk's Shell*

Since 1997 in Templo Mayor Museum, Mexico City, an experimental archaeology project has been developed which main goal is the knowledge of the techniques used to make mollusk's shell objects in prehispanic Mexico. Until now more than 580 experiments have been carried out and shell collections from different sites and temporalities have been analyzed. The data obtained have been used to infer aspects of the specialization of production of valuable items as well as to define technological styles. In the present paper the methodology followed in the project and its main results are presented.

[74] *Co-Organizer ; [74] see Gallardo, Maria De Lourdes*

Vellanoweth, René [7] see Klessig, Barbara K.

Veltre, Doug [256] see Enk, Jacob M.

Venables, Barney [90] see Barker, Andrew L.

Venter, Marcie (University of Kentucky)

[279] *A Ceramic Perspective on the Tuxtla Postclassic*

In this paper, I present ceramic evidence recovered during work at Postclassic Totogal in the Tuxtla Mountains. External styles of elaborate ceramic decoration have been employed successfully to identify evidence of Postclassic occupation in the Tuxtla, but they are rare. Undecorated ceramics, which are much more common, have not been distinguished from Classic period materials. Using elaborate ceramic styles, along with radiocarbon evidence and other period trends to date associated undecorated Postclassic ceramics, I characterize the non-decorative attributes of the Postclassic ceramic assemblage. The ability to identify Postclassic occupations through undecorated ceramics is important for reconstructions of late Tuxteco prehistory.

[279] *Chair*

Vento, F. J. [305] see Campbell, J. Michael

Vento, Frank and J. M. Adovasio (Mercyhurst Archaeological Institute)

[208] *Paleosols as Genetic Stratigraphic Units*

This paper examines the depositional and climatologic variables responsible for the genesis of paleosols in North American alluvial contexts. The occurrence of contemporaneous or penecontemporaneous paleosols in geographically separate drainage basins indicates strong macro-climate controls on the fluvial hydrology and observed alluvial stratigraphy. Given their circumscribed longevity and wide geographic occurrence, the study of paleosols as genetic stratigraphic units can aid in predictive archaeology as well as permit for regional paleoenvironmental reconstruction.

Vento, Frank (University of Notre Dame) and Mark Schurr (Department of Anthropology, University of Notre Dame)

[49] *Geophysical Investigation of a 18-19th century Fishing Village, Oney Island, Ireland*

During the summer of 2007, archaeologists from the University of Notre Dame conducted geophysical investigations on Oney Island. While more than 20 specific localities were studied, some of the most interesting results came from a complex of structures attributed to a 18-19th century fishing village. The geophysical field survey employed a RAMAC ground penetrating radar using a shielded 500 MHz and 250 MHz antenna indexed with a global positioning system. All information obtained was then run through GPR-slice for analysis. It was found that ground penetrating radar was successful in identifying anomalies that were determined to represent distinct cultural features.

Ventresca, Alicia (PhD Student, University of Pittsburgh, Department of Anthropology)

[169] *A statistical analysis of mortuary remains from the Andronovo culture*

Social correlates of mortuary behavior and astragali bone deposition will be analyzed in order to glean information regarding personal status during the Bronze Age. Astragali bones deposited within Andronovo culture burials located in north central Kazakhstan will be discussed in terms of their associated grave goods as well as the interred individual(s). The structure and location of burials and their associated mortuary remains will be evaluated based on changes through time. Correlations between recovered astragal bones and their possible connections with traditional Kazakh bone games will be discussed and evaluated.

Verna, Christine (Max Planck Institute for Evolutionary Anthropology)

[205] *New evidence on La Quina Neandertals*

La Quina has yielded one of the largest series of Neandertals in western Europe. This recent study of these remains provides an updated inventory and their distribution within the site in relation to the latest archaeological data. A detailed morphological and metrical analysis indicate that all the remains with diagnostic traits can be attributed to the Neandertal group and gives new insight into the variation of the classic Neandertals. Osteological similarities between the temporal bones of three adults indicate a lesser

biological distance between them compared to other Neandertals supporting a population-specific morphological pattern.

Veth, Peter (Australian National University), Iain Davidson (University of New England), Jane Balme (University of Western Australia), Josephine McDonald (Australian National University) and Nicola Stern (LaTrobe University)

[270] *The Symbolic Signatures of the Dispersal Of Moderns: The Southern Arc*
We will discuss symbolic behaviour as expressed in the archaeological record of the dispersal of modern humans across the southern arc from Africa to Australia between 100,000 to 40,000 years ago. We will review the evidence for inter-group interactions and identity markers, such as movement of goods imbued with high social value, ornaments, art, ritual burial and use of arbitrary conventions in the making of artefacts. Alternative explanations for the apparent dearth of symbolic material markers in the south will be critiqued towards building a general model of information in the context of small-scale, but highly mobile, hunter-gatherer bands.

Veth, Peter [270] see McDonald, Josephine

Vicent Garcia, Juan

[153] *Marxism in Spanish Archaeology: paradigms and research models on the origins of social complexity in Iberia*

This paper presents a critical review of the dynamics of recent research on the origins of social complexity in Iberia, based on the description of a dominant paradigm, whose fundaments lie on Historical Materialism. Within this paradigm, two opposed models can be identified after their diverging interpretations of the main theoretical categories implied in the analysis. These models will be evaluated in relation to their potential to make sense of the entirety of the Iberian social formations histories, from the Neolithic to the Iron Age, in a broader framework than the cultural local contexts for which they were initially formulated.

Vicente, Julio (INAH) and John Carpenter (INAH)

[185] *The Protohistoric Period and Cultural Continuity of Cahitan-Speaking Groups in Northwest Mexico*

Sixteenth century Spaniards identified numerous groups of Cahitan-speaking peoples occupying a vast portion of the coastal plain and western foothills of the Sierra Madre Occidental between the Río Piaxtla (Sinaloa), and the Río Yaqui (Sonora). These groups have traditionally been considered to be late (ca. 12th C.) arrivals displacing presumably Tepiman-speaking peoples. The results of our recent investigations in northern Sinaloa and southern Sonora, however, support long-term in situ cultural developments within the regional archaeological traditions.

Vicente, Julio [185] see Carpenter, John P.

Vicenzi, Edward [50] see Marquardt, Amy E

Vidal, Alejandra

[157] *Ánálisis funcional de la aldea de Tarapacá Viejo (Tr-49) a través de la evidencia arqueobotánica y arqueofaunística*

Tarapacá Viejo en la Quebrada de Tarapacá corresponde a una aldea cuya ocupación data desde el Período Intermedio Tardío hasta la segunda mitad del siglo XVII. La importancia que tuvo en el desarrollo de las comunidades tarapaqueñas y su complejidad ocupacional nos motivaron a efectuar un análisis intrasitio, cuyo objetivo era conocer las actividades que se efectuaron al interior de sus recintos. Metodológicamente, se analizó el material arqueobotánico y arqueofaunístico, centrándonos en su determinación taxonómica, diversidad, distribución y posibles contextos de uso. Finalmente, se interpretan los restos revisando el papel que jugaron en el desarrollo de la economías tarapaqueñas.

Vierra, Bradley (Los Alamos National Laboratory) [304] Discussant

Vigne, Jean-Denis [256] see *Bollongino, Ruth*

Vila Mitja, Assumpcio [292] see *Briz, Ivan*

Villagran, Ximena (Universidade De São Paulo)

[292] *Archaeostratigraphy of Jabuticabeira ii (SC-Brazil): Models, methods and geoarchaeological techniques unravelling its formation process*

The dark bed that covers the great sambaqui site of Jabuticabeira II represents a shift in the cultural deposition that substituted shells by sediments rich in archaeofaunistic remains, charcoal and sand. Exploring the potential of geoarchaeology in the study of cultural formation processes, sedimentology's facies analysis was adapted to perform archaeostratigraphic studies. Complete description and characterization was made of the different archaeofacies that comprise the dark bed from their physical, chemical, mineralogical and micromorphological point of view. Information derived from this analyses allow extending knowledge on the nature of this archaeosedimentary body and the human activities involved in its deposition.

Villalpando, Elisa (Instituto Nacional de Antropología e Historia, Sonora) [198]

Discussant [273] Discussant; [34] see McGuire, Randall H.

Villeneuve, Suzanne (Simon Fraser University) and Brian Hayden (Simon Fraser University)

[133] *Issues in Identifying and Interpreting Ritual Activity at Keatley Creek*

The recent program of research at Keatley Creek has focused on the issue of identifying ritual behavior in the archaeological record of transgalitarian societies. The past five years of excavations at the site have centered on two clusters of small structures on the South and Northeast Terraces, which Hayden has argued may reflect ritual activity. Results from recent excavations at a series of small structures and features on the South Terrace is presented, including a new series of dates, lithic, faunal, botanical and geological data. Re-analysis of assemblages from other small structures is also incorporated, and interpretive issues are discussed.

[133] *Chair*

Villeneuve, Suzanne [133] see *Sisk, Matthew; [133] see Fox, Michael R.; [133] see White, Carmen; [133] see Spafford, Jim*

Vining, Benjamin (Boston University) and Christopher H. Roosevelt (Boston University)

[39] *Geophysical and Microtopographical Survey at Kaymakci, a Regional Capital of the Second Millennium BCE*

Intensive geophysical and microtopographical surveys provide data for settlement structure within the ca. 8.6 ha fortified enclosure of Kaymakci, a second millennium BCE capital overlooking the Gygaean Lake. Subsurface archaeological features were mapped by gradient magnetometry and electromagnetic induction. Features expressed at the surface were recorded using Real-Time Kinematic GPS (RTK GPS). We integrate the different data using image-processing methods standard in other applications, demonstrating the utility of these methods for raster data-fusion. The combination of these two complementary, non-intrusive approaches clarifies the plan of this particular site, and shows the potential of such non-intrusive approaches for other sites.

Viola, Bence (Department of Anthropology, University Vienna), Doris Pany (Anthropology Department, Natural History Museum Vienna) and Maria Teschler-Nicola (Anthropology Department, Natural History Museum Vienna)

[218] *Quantification of musculoskeletal stress markers using surface scanning*

We present a new method for quantifying musculoskeletal stress markers using high resolution optopometrical surface scanning. These markers are widely used for the reconstruction of life style and activity in past populations, until now mainly by visual scoring. We surface scanned the insertion of the M. pectoralis major on a sample of well preserved remains from the site of Gars/Thunau (Austria, 9th-10th century A.D.) with a

Breuckmann TriTOS L39/60 scanner, for a final resolution of about 20 μ . We explore different methods to quantify differences in enthesis area, surface roughness, surface texture and surface "information content".

Viola, Bence [94] see *Nigst, Philip R.*; **[259]** see *Mallol, Carolina*

Vives-Ferrandiz, Jaime (Servicio De Investigación Prehistórica)

[268] *Phoenician Colonization and Beyond: Hybrid Practices in East Iberia*

This paper explores the notion of hybrid practices in the colonial encounter between Phoenician and indigenous communities in eastern Iberia (8th-6th centuries BC) in terms of the contributions of other groups involved in the creation of new cultural forms. The diverse dynamics of the colonial situations in daily lives and the ways in which the mechanisms of cultural transmission and change operated will be highlighted. Why did some objects, practices, technologies and identities emerge in this setting? Who were the groups involved and their power relationships? How did newcomers and novelties engage in the local landscape?

Vivian, Brian (Lifeways of Canada Limited), Doug Mitchell (Lifeways of Canada Limited), Janet Blakey (Lifeways of Canada Limited) and Kevin Thorson (Lifeways of Canada Limited)

[221] *Cultural Resource Survey of Yellowstone Lake South Side Shoreline*

An archaeological inventory and survey of Precontact Native American sites found along the south shore of Yellowstone Lake was undertaken from 2002 to 2006. Over the three years this systematic survey was carried out a total shoreline distance of over 95 km was examined, resulting in the documentation of 156 Precontact archaeological sites, 62 isolated artifacts finds and the collection of 372 formed tools and cores. The distribution of these finds highlights the importance and ongoing use of Yellowstone Lake in precontact times since the earliest humans set foot within the park region.

Vivian, Brian [221] see *Blakey, Janet S.*

Vladimir, Sladek [85] see *Sosna, Daniel*

Vlak, Dejana (Institute for Anthropological Research)

[139] *When does the childhood end?*

The goal of our presentation is to examine the problems associated with determining the upper age limit of childhood in archaeological populations. Although the definition of childhood is a culturally determined and varies greatly among groups, anthropologists working in archaeological contexts often assume that childhood is biologically defined—which may reflect a western cultural perspective. Consequently, bioarchaeologists typically define “childhood” using skeletal parameters as age cut-off points, without reference to the cultures they investigate. Here, we wish to emphasize the importance of this problem and suggest that bioarchaeologists contextualize the analyses of skeletal remains with observed burial practices and material culture.

Vokes, Arthur (Arizona State Museum)

[198] *Where did you get that bracelet? The nature of exchange networks in the southwestern United States and Northwest Mexico.*

The structure and nature of exchange networks within the southwestern United States has been reviewed in extensive detail beginning with the work of Brand and Tower. While the essential structure is fairly well understood, the nature of the relationships between the cultures within the region, as well as with those in Northwest Mexico is not as well known. A re-examination of the distribution of shell and other trade items coupled with the recent work in Northwest Mexico has allowed for an expansion of our understanding of the interconnected networks that link these areas.

Volta, Beniamino (University of California, San Diego)

[197] *Settlement Patterns in the Kingdom of the Avocado*

In this paper I discuss the settlement patterns of Pusilhá, Toledo District, Belize, based upon data collected over five field seasons by the Pusilhá Archaeological Project. I argue that studying the settlement patterns of Pusilhá not only helps to clarify the internal dynamics of the site, but can also shed some light upon its local and regional political affiliations. Specifically, an analysis of the site's spatial organization reveals that it holds little in common with that of its neighboring settlements: many of its features are either unique to Pusilhá or possibly indicate ties to the eastern Petén region.

Vonarx, Amy Jo and Ronald Castanzo (Smithsonian Institution and University of Baltimore)

[248] *Persistent Pottery Pyrotechnologies? Thermal Reconstructions and Pit Kiln Function at Cerro Tlaqueuxpa, Puebla, Mexico*

In 2007, the Tepeaca Kiln Project excavated kiln features and adjacent areas at Cerro Tlaqueuxpa, Puebla, Mexico. Evidence indicates that the features are associated with Formative Period ceramics production. The labor-intensive manner of construction and evidence of remodeling suggest that the kilns were used over an extended time. Insights from micromorphology and thermal analysis of feature walls, wasters, sherds, and kiln furniture" inform computer models of the thermodynamic history and function of these features. Tools and activity locales related to sand and clay preparation provide details regarding the organization of labor, scale, and intensity of pottery production at the site.

Voorhies, Barbara (University of California), Amy Gusick (University of California-Santa Barbara), Douglas Kennett (University of Oregon-Eugene) and Thomas Wake (University of California-Los Angeles)

[243] *Subsistence Practices at Puerto Marqués, Guerrero, Mexico during the late Archaic Period*

Using biomass reconstructions of key animal species we model subsistence practices of shellfish collection and fishing during the earliest occupation at Puerto Marqués, a deeply stratified bayside site on the coast of Guerrero, Mexico. This site gained renown in the 1960s due to its allegedly precocious early pottery and even earlier pre-pottery occupation. Our recent investigations permit a glimpse at changes in subsistence by the initial inhabitants who formed the site during the Ostiones Phase (3350-1830 cal BCE), prior to the onset of sustained farming and at a time when the site was a shell mound.

[273] *Discussant*

Vranich, Alexei (University of Pennsylvania)

[13] *Ethnohistory in three dimensions*

The challenge of understanding the descriptions early ethnohistorical documents is compounded with the difficulty of merging vague textual descriptions with accurate archaeological site plans and excavations. Using the case study of the site of Tiwanaku (AD 500-1000), Bolivia, I present an objective method for archaeologists to employ ethnohistorical documents in a manner compatible with present day excavation and mapping techniques. Using a commercially available three dimensional modeling program, the descriptions and measurements are translated into three dimensional forms and compared with the existing and hypothetical forms of the site.

Vrem, Darin (USDA-Natural Resources Conservation Service, Idaho), Kenneth C. Reid (Idaho State Historical Society) and Morris Uebelacker (Central Washington University)

[278] *Stabilizing Wasden*

The privately owned Wasden site includes three large collapsed lava tubes on a ranch on the eastern Snake River plain. Excavations at Owl and Coyote caves between 1965-1978 generated important Pleistocene and Holocene archaeological and paleontological collections, and we assume Dry Cat has comparable potential. However, all three caves suffer impacts from a mix of livestock trampling, snowmelt-driven rilling, and interior undercutting of fragile loessal deposits. In support of the National Historic Landmark nomination process, federal, state, and private initiatives recently converged to fence the

three openings, stabilize surface loss, and complete close-interval contour maps for Owl and Coyote caves.

W. Barton, Loukas [22] see Morgan, Chris

Wager, Tracy (Center for Environmental Management of Military Lands), James Zeidler (Colorado State University) and Laurie Rush (Fort Drum, New York)
[108] *Solving the Preservation Puzzle: The Development of Cultural Heritage Playing Cards for In-Theatre Soldier Training*

Playing cards have long been used as informational and educational tools far beyond their recreational use for game playing. Their value in this respect lies in their compact size, maximal portability, and frequent use both by individuals and by larger groups. Hence, the medium ideally ensures broad distribution of the message. We report on the development of educational playing cards specifically aimed at increasing awareness of heritage preservation issues for DoD personnel deploying to Iraq and Afghanistan. Imagery and accompanying captions are briefly reviewed and a unique set of puzzles associated with each of the four suits is also illustrated.

Wagner, Fritz [92] see Wagner, Ursel

Wagner, Ursel (Technische Universitaet Muenchen), Fritz Wagner (Technische Universitaet Muenchen), Izumi Shimada (Southern Illinois University), Rupert Gebhard (Archaeologische Staatssammlung Muenchen) and Werner Haeusler (Technische Universitaet Muenchen)

[92] *A cross-cultural study of black pottery by Mössbauer Spectroscopy*
Quite generally the black color of pottery results from firing in a reducing environment, although a variety of processes can be used in its production. We apply Mössbauer spectroscopy at RT and 4.2K, supported by X-ray diffraction and thin section microscopy to describe details of the production. Material from Northern Peru, dated to the Formative period (2000-800 BC) and the Middle Sicán culture (AD 950-1050) was studied extensively, as well as wheel turned and graphite ware from Celtic Europe (300-15 BC). Additional examples will be discussed, amongst them Etruscan Buccero blackware and black contemporary pottery from San Ildefonso (NM).

Waguespack, Nicole (University of Wyoming) and Todd Surovell (University of Wyoming)

[184] *Folsom Residential Site Structure: Insights from Barger Gulch, Locality B*
The spatial integrity of Folsom deposits at Barger Gulch Locality B provides an exceptional opportunity to explore residential site organization and behavior of late Pleistocene foragers. Spatial and technological analysis provides a glimpse into the spatial configuration of social units, the demography of site residents, and the diversity of site activities. Through detailed spatial and quantitative analysis of site features and associated assemblages, in conjunction with interpretive insights derived from ethnoarchaeological and ethnographic analyses, residential camp layout through the distribution of hearths and structures can be tentatively identified. Focusing on residential site structure enables Folsom populations to be viewed relative to global patterns of forager diversity, expanding upon current interpretations of Folsom lifeways.

Waguespack, Nicole [193] see Surovell, Todd A.

Wahl, David (USGS) and Francisco Estrada-Belli (Vanderbilt University)

[109] *Prehistoric Human-Environment Interactions in the Southern Maya Lowlands: The Holmul Region Case*

Here we present preliminary results of a study that examines proxy data extracted from soil and sediment profiles correlated with extensive site surveys in the Holmul region. In order to address models that suggest environmental degradation and/or climate change had an effect on the cultural trajectory of the region, this study uses paleoenvironmental indicators in conjunction with detailed local settlement history. Evidence of environmental change that is not only connected to local demographic shifts, but also temporally correlated to similar

evidence from disjunct locations across the Maya Lowlands, has the potential to offer strong support to these models.

Wake, Thomas (Zooarchaeology Lab)

[59] *Trade, Exchange, and Cultural Boundaries in Central America: A view from Northwest Caribbean Panama*

The participation of the past occupants of Sitio Drago in an extensive trade and exchange network is indicated by a variety of artifacts recovered during recent fieldwork at this strategically located beachfront site. Ethnohistoric accounts suggest that the inhabitants of Bocas del Toro were sophisticated traders. Diagnostic ceramic sherds from Guanacaste, central Costa Rica, Diquis, Chiriquí, and central Panama, as well as non-locally derived stone tools are present at the site. Potential exchange goods include foodstuffs, salt and copious shell beads and ornaments. The possible interaction sphere suggested by the recovered artifacts is discussed with regard to perceived cultural boundaries in the region.

[243] see Voorhies, Barbara

Walde, Dale (Department of Archaeology)

[62] *Finding and Not Finding Athapaskans in the Archaeological Record*

Some have held that the Avonlea Horizon represents movement of Athapaskans through the Canadian Plains. Previous work by the author suggests a simple correlation of Athapaskan ethnicity with Avonlea is problematic. This paper describes ongoing study of changes in Late Period point style in southwestern Saskatchewan. That work supports a scenario of in situ change in point style from Avonlea through to the Contact period, suggesting local ethnographically recorded non-Athapaskans produced most if not all of the Avonlea Horizon and that the search for Athapaskan migration routes might be more profitably conducted to the west of the Canadian Plains.

Walker, Chester (Archaeo-Geophysical Associates, LLC), Adam King (South Carolina Institute of Archaeology and Anthropology), Christopher Thornock (University of South Carolina) and Duncan McKinnon (University of Arkansas)

[129] *Archaeogeophysics at Etowah Indian Mounds State Park*

The use of geophysical survey methods at Etowah Indian Mounds Historic Site, located in northwestern Georgia, has become a critical tool in the exploration and subsequent mapping of sub-surface features. For the past three seasons, the use of multiple geophysical instrumentation and methods has proven to be successful in numerous focus areas. During the 2007 field season, a large-scale magnetometer survey was added to the current project. This magnetometer survey has greatly contributed to the interpretation of intrasite settlement activities and has led to the discovery of several previously unknown buried structures.

Walker, Chet [3] see Cannon, Mike

Walker, Debra (Florida International Univ) and Kathryn Reese-Taylor (U Calgary)

[97] *New Dates for Early Classic Naachtun, Peten, Guatemala*

Recent research at the Maya site of Naachtun in northeastern Petén, Guatemala, revealed the substantial remains of a large Early Classic city. While many looted deposits provided temporal clues, controlled excavations in 2004 and 2005 generated the first carbon samples for radiometric assay. These results shed light on Early Classic Naachtun in general as well as placing newly discovered Stela 26 in its chronological context.

Walker, John (UCF Department of Anthropology)

[158] *Amazonian Ring Ditches as Water Control Features*

As agricultural earthworks, canals and raised fields contrast with pyramids or mounds. Water control, being an "agricultural" concern, is often consigned to the mundane, while the study of politics and history revolve around great monuments. The Llanos de Mojos in southwestern Amazonia is a seasonal wetland where farmers built earthworks that served both economic and political functions. "Ring ditches" are constructions which now appear to be widespread throughout Mojos. Although they are monuments, ring ditches were also used to control water, and like all hydraulic constructions they build environments that

record and shape the actions of people over generations.

Walker, Karen (Florida Museum of Natural History) and Donna Surge (University of North Carolina)

[148] *A Consideration of Climate Variability in the Timing of Sociopolitical Change in Subtropical Southwest Florida: A.D. 1 - 1700*

Concern for how climate change will impact our future has resulted in an explosion of new high-resolution paleoclimate records. Those from the greater North Atlantic region increasingly indicate widespread teleconnections within the region's atmospheric-oceanic system, meaning that these records are increasingly valid for archaeological research in Florida. We summarize this background and introduce new research that combines archaeology and geochemistry to produce an integrated human-climate record from southwest Florida focused on the period of A.D. 1 - 1700. Within this context of regional records and our emerging southwest Florida record, we examine some correlations of climate variability with sociopolitical change.

Walker, Phillip (University of California) and Rhonda Bathurst (University of Toronto)

[28] *Empty Graves and Missing Middens: The Causes and Interpretive Challenges Posed by Poor Preservation at a Viking-age Icelandic Farmstead*

The preservation of skeletal material at the Viking age farmstead at Hrísbrú in southwestern Iceland poses many interpretive challenges. Some graves appear to be empty except for the presence of highly degraded deposits of dental enamel. Faunal remains consist mainly of heavily burned calcined bone fragments and highly degraded teeth from domestic animals. Traces of shellfish in the site consist of fragments of periostracum but not the shells. These preservation problems can be attributed to microenvironmental variation in the acidity and permeability of the local soils.

Walker, Phillip L. [28] see Sholts, Sabrina B.; **[28]** see Richman, Rebecca L.

Walker, Renee (SUNY College at Oneonta)

[258] *Ceremonial Use of Dust Cave: A Late Paleoindian to Middle Archaic Period site in Northwest Alabama*

Dust Cave contained five meters of stratified deposits with well-preserved botanical and faunal remains, as well as tremendous amounts of lithic material. Researchers have produced numerous theses, dissertations and reports on the nature of the deposits and the socio-economic importance of the cave. However, relatively few studies have focused on ceremonial activities. The cave contains human and dog burials, as well as a cache of animal bones that indicate the site had uses beyond subsistence activities. This paper explores the significance of the ceremonial activities of the site, which are particularly exciting due to the antiquity of the cave's deposits.

Walker, Steven J. [29] see Braun, David R.

Walker, Virginia

[310] *Center Conquers Periphery: Late Post-Classic Social Interaction between the Mexica and Matlatzinca*

Within two decades of their 1476 conquest of Malinalco, the Mexica-Aztecs began construction on eleven buildings overlooking the town. The structures covered an earlier Matlatzinca temple and were near caves that had extensive pre-Aztec ritual histories. An analysis of portable sculpture from Malinalco suggests that some patrons did not have access to the artesian workshops of Tenochtitlan. Was Malinalco sufficiently sacred to become a space of social interaction between the Mexica and Matlatzinca? Only an analysis of the material record and the primary sources will reveal if this were the case, or if the Mexica commandeered the space for themselves.

Walker, William (New Mexico State University)

[225] *Artifact Agency and Underworld Entrances: Artifact Agency in the Mimbres and Casas Grandes Regions of the Borderlands*

This paper applies Schiffer's artifact centered theory of communication to the interaction

between human and nonhuman beings (e.g., ancestors, spirits, and animating forces) in the post A.D. 1000 landscape of the Mimbres and Casas Grandes regions of the Southwest Borderlands. In an artifact centered approach to communication, artifact variability (formal dimensions, frequencies, associations and spatial relations) becomes an indirect measure of the information exchange processes in the performance of human activities. This approach is particularly well suited to archaeological activities involved in "ritual" or "religion" because it facilitates conceptualizing information exchange between human and nonhuman beings using material objects. To illustrate this perspective we develop a case study of earth entrances in the Mimbres and Casas Grandes cultural landscapes.

Wallace, Birgitta

[246] *The Norse in North America: situating L'Anse aux Meadows in the Vinland Sagas*
The presence of the medieval Norse in North America has been debated for more than 160 years. Archaeological work at L'Anse aux Meadows in northern Newfoundland has furnished physical evidence of a Norse presence c. AD 1000. Recent research in Iceland and Greenland makes it possible to understand the role of the L'Anse aux Meadows in the Vinland sagas. The site is Leif Eriksson's base in Vinland and Straumfjord of Erik the Red's Saga. Inland encompassed the coastal regions of the Gulf of St. Lawrence and the Norse presence in North America was confined to exploration and exploitation of resources, not colonization.

Wallace, Eliza (Boston University)

[168] *Geography and the 'Asal-Dhra' Archaeological Project*
The 'Asal-Dhra' Archaeological Project in Jordan employs systematic archaeological survey to understand Neolithic interaction on the landscape scale. Mapping the available resources between Wadi 'Asal and Dhra' is essential to understanding factors that likely influence site location. Manipulation and combination of such resource maps produces descriptive and predictive models for site locations. These models provide a concrete output of the site selection criteria observed on the ground during systematic survey, or from current understanding of the activities of the Neolithic people in the landscape, which can then be supported or altered based on data gathered during the survey.

Wallace, Elizabeth (Department of Anthropology), Sandra Wheeler (University of Western Ontario) and Tosha Dupras (University of Central Florida)

[217] *Distributions of Age and Pathology of Juvenile Skeletons from the Kellis 2 Cemetery, Dakhleh Oasis, Egypt: A GIS Analysis*
Excavations in the Roman/Christian period Kellis 2 cemetery (circa 50 – 450AD), Dakhleh Oasis, Egypt, have revealed a total 410 juvenile skeletons out of 645 individuals. This study utilizes GIS to examine the placement of juvenile burials within the cemetery according to age and pathology. Analysis of pathological conditions from a subsample of 180 juveniles include dental pathology, developmental defects, cribra orbitalia, trauma (including fractures and birth trauma), and periosteal reactions. GIS results indicate that certain patterns are discernable in the burial location of juveniles according to their age and pathological condition.

Wallace, Elizabeth [217] see Dupras, Tosha L

Wallace, Henry (Desert Archaeology Inc)

[104] *The Cañada del Oro Valley Hohokam: Results of Large-Scale Excavations at Honey Bee Village*

Nestled at the confluence of two major tributary drainages, Honey Bee Village was a moderately large prehistoric Hohokam ballcourt village in the Cañada del Oro Valley north of Tucson, Arizona. A year of excavations in 2006-2007 resulted in a near-complete map and very large excavated sample of the ancient village for the portions outside the central precinct. With over 350 exposed structures ranging in age from A.D. 500 to 1200, a wide range of research issues were addressed. This paper will examine changes in settlement structure and the emergence of a distinct local identity.

Wallace, Henry D. [177] see Cerezo-Roman, Jessica I.

Waller, Steven (Rock Art Acoustics)

[295] *Echo Masks, Echo Myths, and Echoing Rock Art Sites of the Pacific Northwest*
Echo masks of the Pacific Northwest are a mobilary art form that is a manifestation of cultural beliefs in echo spirits. Much parietal rock art is also a manifestation of cultural beliefs in echo spirits, suggests archaeoacoustic evidence. Echoes have been documented at hundreds of rock art sites globally, including the Pacific Northwest. The animistic paradigm of supernatural explanations for echoed sounds, documented in many echo myths, can help explain motivations for both the location and subject matter of much rock art. The natural acoustics of rock art environments should thus be preserved.
<http://www.geocities.com/CapeCanaveral/9461>

Waller, Stewart [183] see Richards, Julian D.

Walling, Stanley [297] see Hanna, Jonathan A.; [297] see Davis, Peter F.

Wallman, Diane

[281] *Meat me in St. Louis: Irish Foodways and the Immigrant Experience in 19th century St. Louis, Missouri*

This paper explores Irish immigrant foodways in St Louis in the mid-nineteenth century. It is based on a sample of faunal remains uncovered from a large-scale salvage excavation on the former location of a working-class, multi-ethnic, immigrant neighborhood. The analysis focuses on the species represented in the assemblage and the quality of the meat cuts to explore the economic, social and cultural contexts of the households being studied. The results demonstrate how food choice reveals the complex interactions between these working-class immigrant families and the social and economic environment in which they lived.

Walls, Matthew [145] see Lyons, Natasha Lynn

Walshaw, Sarah (Simon Fraser University)

[204] *Swahili Urbanization and Food Production: Paleoethnobotanical Contributions from Pemba Island, Tanzania*

From approximately AD 1000-1500, Swahili stonetowns emerged along the eastern African coast as local farming communities engaged with the Indian Ocean world through material and ideological exchange. Archaeologists have assumed that stonetown residents obtained staple grains from the countryside and were not themselves primary food producers. I test these assumptions, gleaned largely from ethnohistoric sources, directly against the archaeological record in this first comprehensive study of ancient Swahili plant foods. Significantly, stonetown households at Chwaka (Pemba) continued to store their own supplies of grains (rice) and textile plants (cotton) during urbanization, and were likely not externally provisioned.

Walter, Richard [27] see González-Tenant, Edward W.; [252] see Sheppard, Peter J.

Walz, Jonathan (University of Florida)

[40] *Archaeologies of Disenchantment*

A central challenge facing archaeologists in Africa is addressing contemporary communities. Two scholarly trends flourish in African heritage studies: giving "voice" to silenced pasts and the search for relevancy in practice. Archaeologists remain in a certain mode of expression that hinders the resolution of these conundrums. I posit that our disenchantment results from a failure to engage and translate expressions of discontent among the people whose pasts we study. The history making potential found in everyday struggles, atypical happenings, and fantastic renderings in Tanzania valorizes such disenchantments and offers archaeologists opportunities to begin to resolve their search for relevancy.

Wang, Hui [22] see Barton, Loukas W.

Wang, Wei

[226] *Interregional Interaction and the Formation of Early Chinese Civilization*

Interregional interaction is one of the most crucial social and cultural processes shaping the formation and working of early Chinese civilization. This paper charts temporal and spatial variations of interregional interaction the Central Plain had with its neighboring regions from the Neolithic to Bronze Ages. It is argued that the territorial extent of early China was largely determined by the cycling of expansion and retreat of regional Neolithic cultures. Ideology, manifest in the rituals, was a core element of the cultural expansion out of the Central Plain, and it was also the foundation of integrated and multifaceted early Chinese civilization.

Warburton, Miranda [132] see *Hutira, Johna*

Ward, Christine (Geo-Marine, Inc.) and Myles Miller (Geo-Marine, Inc.)

[53] *Designed Expedience? Core Technologies in the Jornada Region of the Southern Southwest*

Core technologies in the Jornada region of the southern Southwest are often viewed as unstandardized. Recent research however suggests that expedience might be defined at different levels, and that some "expedience" may have involved a greater degree of planning and design. In this paper, using datasets based on projects across the Fort Bliss military reservation, we will examine the organization of production and the question of whether production was in fact planned toward the deliberate selection of flakes for anticipated tasks or whether it was purely expedient, focused instead on the manufacture of unstandardized flakes for multiple or undifferentiated tasks.

Ware, John (Amerind Foundation) and Francisco Mendiola (INAH (National Institute of Archaeology and History, Mexico)

[34] *Before and After Charles C. Di Peso: the Apex of Archaeology in Chihuahua*

Archaeological investigation in Chihuahua always has been dominated by Paquimé. From the sixteenth century to the present, this focus shaped and conditioned the archaeology of the area in an important way. This paper shows how our paradigmatic visions have grown over time, not only through culture area and diffusionist viewpoints (e.g., the Southwest and Mesoamerica), but also through the theoretical and academic contributions of the monumental work of Charles C. Di Peso and his team. These two historical currents are now united in the archaeology of Chihuahua.

Warinner, Christina (Harvard University), Nelly Robles Garcia (Instituto Nacional de Antropología e Historia, Mexico), Noreen Tuross (Harvard University) and Ronald Spores

[110] *More than 100% Maize: The Mesoamerican Isotope Dilemma*

Interpreting past human subsistence strategies on the basis of light stable isotopes in consumer tissues and foodstuffs has proven challenging. Current interpretive models are based on experimental and observational isotopic studies, but none can be applied with consistency to the isotopic values observed in prehistoric Mesoamerica. Is this area truly unique, or does it reveal larger problems in the ex post facto interpretations of human diets based on isotopic analyses? New data from a colonial Mixtec population will be examined to reveal that current models can yield impossible dietary reconstructions exceeding a 100% C4 contribution to the diet.

Warmlander, Sebastian (UCLA), David A. Scott (UCLA), Davide Zori (UCLA) and Jesse Byock (UCLA)

[28] *Long- and Short-Distance Trade Goods from an Icelandic Viking Farm*

The excavation at Mosfell, Iceland, has revealed a Viking Age longhouse, together with an associated farm church and burials. Here we present our analysis and interpretations of the imported objects found at the site. Imported goods from both Scandinavia and the Mediterranean area show that the Icelandic Viking community was part of the Viking trade network that extended from America in the West, to the Caliphate and the Byzantine Empire in the East. The high-status nature of some of the goods strengthens the interpretation that the site was a local power center.

Warner, John

[83] *Social Memory, Cultural Archaism, and the Politics of Spatial Production: The Compounds of Jataanca, Peru*

Architectural configurations and settlement patterns are the result of numerous short and long-term social/environmental factors. Sociopolitical organization, social memory, and cultural archaism are among the prominent factors that ultimately inform the configuration of the constructed environment. This paper will examine the dynamic role played by these various factors in the formation of the proto-urban Peruvian North Coast site of Jataanca. Ultimately, this largely Gallinazo site provides an excellent opportunity to analyze the degree to which the above factors – especially cultural archaism and social memory – played a fluid role in the general development of Peruvian North Coast architecture.

Warren, Claude [80] see Schneider, Joan S.

Waselkov, Gregory (University of South Alabama) [243] *Discussant*

Washburn, Dorothy

[266] *Symmetry Analysis of Chaco Black-on-white: Identities between Bonito and Salmon and Aztec*

Symmetry analysis of Chaco Black-on-white ceramics is used to define the nature of the affiliation with and interaction between the Chacoan outliers of Salmon and Aztec with Pueblo Bonito in the Chacoan core. Hatched sherds with partial designs from Salmon and Aztec have identical two-dimensional symmetries and patterns to those found on the whole designs on cylinder jars, small dishes and sharp-shouldered pitchers at Bonito. A petrographic analysis of hatched sherds from Aztec and Salmon by Lori Reed tests the suggestion that hatched vessels from Bonito were taken to the outliers, perhaps as symbols of the overseers who managed them.

Wasilik, Norbert (University of Wyoming)

[265] *Structure and Formation of the Early Paleoindian Layer at the Helen Lookingbill Site in Northwestern Wyoming.*

The Helen Lookingbill site (48FR308) is located in the Washakie Range of the Absaroka Mountains in northwestern Wyoming. A 10,400 year old Early Paleoindian layer at the site yielded a rich chipped stone assemblage that originally received minimal reporting. The focus of this study is the structure and formation processes of the chipped stone assemblage. The research is based on several analytical methods, including refitting, attribute analysis, and cluster analysis. The results indicate that during the Early Paleoindian Period the site was predominantly utilized for biface production, which likely occurred around a hearth. The Early Paleoindian chipped stone component was moderately affected by several post-depositional processes and most of the site remains spatially intact.

Watanabe, Yuki [74] see Filloy, Laura

Watchman, Alan [32] see Hernandez Llosas, Maria Isabel

Waterman, Anna (University of Iowa), John Willman (The University of Iowa) and Katina Lillios (The University of Iowa)

[215] *Health Status and Diet of the Human Population at the Late Neolithic Collective Burial of Bolóres (Torres Vedras), Portugal: Preliminary Results*

The archaeology of the Late Neolithic in the Portuguese Estremadura provides compelling evidence for increasing social stratification. The impact of these social transformations on human health, however, is poorly understood. In order to obtain information about health status, diet, and lifestyle patterns during this time of social change, excavations at the Late Neolithic collective burial of Bolóres (Torres Vedras) were undertaken in the summer of 2007. This paper presents analyses carried out on the skeletal and dental remains from Bolóres and compares these to other Late Neolithic burials in the Estremadura.

Waters, Jennifer [304] see Griffitts, Janet L.

Waters, Michael (Texas A & M University), Joaquin Arroyo-Cabral (Instituto Nacional de Antropología e Historia/Laboratorio de Arqueozoología), Patricia Ochoa-Castillo (Museo Nacional de Antropología/Subdirección de Arqueología) and Paul Renne (Berkeley Geochronology Center)

[32] *Geoarchaeological Investigations of the Hueyatlaco Site, Valsequillo Reservoir, Mexico*
The Hueyatlaco site, Mexico, has been a source of controversy for almost fifty years. Artifacts from this site are claimed to be 25,000 to 250,000 years old. Here we report on the results of recent geoarchaeological investigations at Hueyatlaco. We present a revised stratigraphy and new dates for the site.

Waters, Michael [221] see Keene, Joshua L.

Watkins, Chris [11] see Safi, Kristin N.

Watkins, Joe (University of Oklahoma)

[132] *"By the Ford in the River: Scavenging Behavior on the Southern Great Plains"*
This poster examines the evidence of scavenging behavior found on the southern Great Plains as determined by an examination of various body remnants exposed by river erosion. By examining such remains through an archaeological and ethnographic lens, it is possible to hypothesize uses for the various body parts removed as well as some of the social structures of the scavengers.

Watrall, Ethan (Michigan State University)

[183] *iAKS: A Web 2.0 Archaeological Knowledge Management System*
Currently in development, iAKS (Interactive Archaeological Knowledge Management System) is designed to address data collection, archiving, and analysis problems encountered by many archaeological projects. Based on Web 2.0 technologies, iAKS features a flexible setup and install model that allows archaeologists to customize the types of data they want to collect and archive. Further, iAKS features a variety of connectivity models, making it an appropriate tool for projects that have regular network connectivity and those that do not. In addition, iAKS features robust data visualization, allowing archaeologists to browse and creatively visualize data. Finally, iAKS is designed with a keen sense of usability, thereby making it appropriate for a broad user base.

Watson, Adam (University of Virginia)

[285] *Temporal and Synchronic Spatial Patterning in Chaco Canyon: Kriging, Correspondence Analysis, and Ceramic Variation at Pueblo Bonito*
Previous research on the distribution of ceramics at Pueblo Bonito in Chaco Canyon, New Mexico, has proven crucial to archaeologists' attempts to understand the site's complex history of construction, use, and abandonment. Spatial statistics and geostatistical methods of interpolation are valuable analytical tools that provide an opportunity to explore intra-site spatial and temporal patterning. In this paper I will discuss how the application of kriging analyses and correspondence analysis permit a reappraisal of diachronic sources of ceramic assemblage variation in Pueblo Bonito, as well as highlight patterns of site-use of an atemporal and/or potentially synchronic nature.

Watson, Adam [140] see Jolie, Edward A.

Watson, James [104] see Harry, Karen G.

Watson, Judy (Museum Conservation Institute) and Robert J. Speakman (Smithsonian Museum Conservation Institute)

[241] *Evaluating the potential of SEM micro-XRF for obsidian provenance studies*
Archaeologists employ a variety of analytical techniques, such as X-ray fluorescence (XRF), neutron activation analysis (NAA), and inductively coupled plasma mass spectrometry (ICP-MS) to identify the geologic sources of archaeological obsidian. Although XRF has long been the preferred analytical method for obsidian, conventional

XRF instrumentation lacks the ability to reliably analyze small artifacts. Consequently, destructive analyses by NAA or ICP-MS oftentimes results with smaller samples. Newer analytical techniques, such as those afforded by environmental electron microscopes with micro-XRF tubes may provide a viable alternative for nondestructive XRF analyses of smaller artifacts. Methods and results from our initial experiments are presented.

Watson, Karen [277] see *Biskowski, Martin*

Watson, Patty Jo [258] see *Crothers, George M.*

Watson, Rachel (LA Division of Archaeology) and Carlos Perez (GEC, Inc.)
[107] *Making Louisiana's Cultural Resources Records Easily Accessible: Louisiana's Cultural Resources Map*.

This paper will outline the processes and decisions that were made to create an effective GIS system that could be utilized by both professionals and the citizenry of Louisiana to help promote both progress and preservation. Within weeks of finalizing the contract, Hurricanes Katrina and Rita made landfall in Louisiana and demonstrated the importance of having quick and reliable access to information. We discuss numerous issues including selecting effective fields for a geo-database and what to do with less than accurate location data. Also, we discuss future endeavors to improve public awareness of Louisiana's rich cultural history.

Watters, David (Carnegie Museum)

[240] *Rethinking Caribbean Exotics: Shifting Views on Source, Distribution, and Exchange*
The past fifteen years have brought about a major expansion of the database available for stone beads and pendants within the Caribbean archipelago. Knowledge of spatial and temporal distributions of finished products and research on source areas call into question some parameters of exchange and manufacture proposed in the early 1990s. Are purportedly exotic materials really exotic and at what geographic scale? How local is local as opposed to non-local? Are beads and pendants truly abundant in (some) Saladoid sites but sparse in post-Saladoid ones? Are we finally starting to ask appropriate questions and propose pertinent testable hypotheses?

Watters, Jr., Harold [221] see *Holley, George*

Watts, Christopher

[72] *A Woodland Home Companion*

This paper examines the quintessential architectural form of Iroquoia - the longhouse - from a dwelling perspective. It attempts to skirt more traditional concerns with provision and symbolic representation in favour of exploring how this built form might have been apprehended and experienced by its inhabitants. Along these lines, modes of Iroquoian sociality are explored with regard to lived space and the notion that the longhouse would have been differentially disclosed to the senses. Ultimately, in arguing for a continuous rather than binary view of the Iroquoian world, this paper foregrounds the potential for a human/home co-agency and mutual becoming.

[72] *Co-Organizer*

Way, Annie (Washington University, St. Louis)

[21] *Surveys to Settlement Systems: Re-evaluating Settlement Hierarchies in the Late Prehistoric Lower Yazoo*

Settlement models—expectations for settlement in a given area based on settlement patterns from similar cultures and on assumptions about sociopolitical organization, subsistence, and ideology—provide a blueprint for regional archaeological studies. Recent work in the lower Yazoo basin of west-central Mississippi tested assumptions about Mississippian settlement and sociopolitics against settlement data from late prehistoric chiefdoms located along Deer Creek. The results of this research have caused expectations for the settlement system in this area to be reevaluated.

Webb, Elizabeth [234] see *Macrae, Scott A*

Webster, David (Penn State University) [41] Discussant

Webster, David [158] see Silverstein, Jay E.

Webster, Laurie (University of Arizona)

[266] *Migration or Emulation?: Evidence for the Movement of Chacoan Religious Leaders, Societies, and Knowledge to Aztec West, New Mexico*

New research with previously unpublished collections of perishable artifacts from Chaco Canyon and Aztec Ruins sheds new light on religious practices and ritual paraphernalia of these eleventh- and twelfth-century great-house communities. Although many religious ideas and symbols appear to be shared, this does not necessarily confirm a migration of Chacoan ritual leaders and religious specialists to Aztec. Employing concepts of technological style and communities of practice, I explore low-visibility attributes of ritual objects to evaluate the evidence for a migration of religious specialists and ritual artifact producers from Chaco to Aztec during the early AD 1100s.

Weetaluktuk, Tommy [17] see Gendron, Daniel

Wegener, Robert (Statistical Research, Inc.), Heather Miljour (Statistical Research, Inc.), Katherine Neustadt (Arizona Department of Transportation), Michael Sullivan (Tonto National Forest) and Richard Ciolek-Torrello (Statistical Research, Inc.)

[304] *Late Archaic, Early Agricultural, and Hohokam Land Use along Queen Creek, South-Central Arizona: The U.S. 60 Archaeological Project*

This project documents 3,000 years of aboriginal use of the Queen Creek region, including numerous Cienega and Red Mountain phase site components consisting of securely-dated house groups, robust artifact and ecofact collections, and human internments. Preclassic and Classic period Hohokam site components were also sampled. Together, these data allow us to evaluate Cienega and Red Mountain phase land use and technology, as well as later Hohokam land-use strategies in non-riverine areas. We discuss the implications of our ongoing research in the context of the forager-farmer transition in southern Arizona.

[304] Chair

Wegener, Robert [304] see Homburg, Jeffrey A.; [304] see Beary, Mark O.

Wei, Dong (Jilin University) and Hong Zhu (Jilin University)

[170] *Mortuary Analysis of Ancient Human Remains from Sichuan, China*

This study is to report the mortuary analysis of 363 skeletal remains (3500BP) from three archaeological sites from Sichuan Province, China. Conventional osteological analysis was conducted on these remains to estimate the sex and the age at death and to record other physical characteristics. We have found that there are significant variations among burials in terms of body orientation, body treatment, and demographic compositions. These observed differences provide an excellent line of evidence to observe mortuary behavior of past societies to reconstruct and document the social status and social structure of past societies.

Weinstein, Elka (Museologic)

[37] *Two Cases of Development in Archaeological Tourism: Museo El Mogote (Real Alto) and the Gran Ruta Inca in Bolivia*

Museo El Mogote is an example of local development of an important archaeological site and a museum for tourism purposes in coastal Ecuador (along with several other sites in the immediate vicinity). The Gran Ruta Inca is the Inca road which stretches from Ecuador to Chile, parts of which are currently under development for tourism, primarily in Peru. A comparison and analysis of these projects in light of the recent successes of locally-centered projects and the benefits to be obtained with integral plans that are sponsored as part of sustainable development projects are discussed in this paper.

[37] Co-Organizer

Weinstein-Evron, Mina [115] see *Portillo, Marta*

Weinstock, Jacobo [223] see *Shapiro, Beth*

Weisler, Marshall (University of Queensland), Jian-xin Zhao (University of Queensland, Australia) and Quan Hua (2Australian Nuclear Science and Technology Organisation, Australia)

[169] *C-14 marine reservoir ages in Hawai'i derived from U-series dated corals*

One fundamental problem with radiocarbon chronologies built on charcoal dates is the possibility of inbuilt age of wood samples. Consequently, marine shell is commonly used for dating in the Pacific. For determining the marine reservoir, we radiocarbon dated coral samples that had been precisely dated by U-series assay. We selected coral samples from different coastlines on Moloka'i, Hawaiian Islands, with different offshore conditions such as upwelling, currents, and wind patterns, providing insights into the variation of local conditions on the same island—something that has never been attempted. We provide a new and accurate deltaR value for late Hawaiian prehistory.

[156] *Discussant*

Weiss, Lindsay

[201] *Colonial Encounters in the South African Diamond Fields*

The British Empire imagined itself as an extensive global template, each territory roughly analogous to another and all governed with legal-rational consistency. However, archaeological reconstructions of the late 19th century Diamond Fields in South Africa contradict this vision. Speculation, smuggling, and gambling made such spaces antithetical to racial and class-based imperial systems, and represented the point at which the colonial empire confronted the radical social effects of global finance capital. Disciplining this heterogeneity, by asserting strict racial and class distinctions that had been blurred by the vagaries of financial speculation and rapid profits, followed the routes of the diamonds themselves.

Welch, Daniel (Texas A&M University)

[156] *Geochemical Testing of Volcanic Glass from Tutuila Island, American Samoa*

As archaeological testing continues in American Samoa, our knowledge surrounding the prehistoric use of volcanic glass as a tool-stone rapidly increases. While volcanic glass procurement sites on Tutuila Island remain unidentified, a high frequency of cortex suggests local exploitation of raw materials. X-Ray Fluorescence is utilized on artifacts from the coastal village of Aganoa and the highland site of Vai Nu'u test for common or disparate origins. These data are then compared to artifacts recovered from additional sites in Samoa and throughout the Central Pacific. Procurement strategies, technology and interaction surrounding volcanic glass in American Samoa are also discussed.

Welch, John (Simon Fraser University), Chaudaquoq Asp (Simon Fraser University), George Kaufmann (Simon Fraser University) and Vera Asp (Simon Fraser University)

[260] *Linking Documentary and Material Histories Through Community-Based Archaeology in Tahltan Territory, British Columbia*

Many Athapaskan archaeologies struggle under imposed epistemological burdens, notably expectations for fine-grained positive correlation among conceptions of geography, materiality, ethnicity, and history. The methods and initial results of a Tahltan-directed project provide an alternative, internalist approach to improving and sharing knowledge about the Tahltan past. Outcomes from excavations, oral tradition consultations, and documentary studies are creating and integrating benefits within Tahltan and academic communities. By bridging gaps between first-person and third-person histories, clarifying and highlighting Tahltan archaeological signatures, and improving Tahltan access to and use of material dimensions of their heritage, this work is breathing life into the archaeological record.

[260] *Co-Organizer*

Welch, John R. [300] see *Ewing, Robyn*

Welch, Ransley [90] see Barker, Andrew L.

Welham, Kate (Bournemouth University), Andy Payne (English Heritage) and Neil Linford (English Heritage)

[55] *An integrated geophysical exploration of the Stonehenge landscape*

The Stonehenge Riverside Project has provided an important opportunity for geophysicists from different organizations to apply multiple techniques across large areas. Fluxgate magnetometry, earth resistivity and ground-penetrating radar have been used in tandem to cover various terrains and to answer specific questions about sub-surface deposits. Integration of the different methods has generally resulted in achieving better results than those obtained by any one method alone. The geophysical data has been used in conjunction with the results from excavation to more fully understand Durrington Walls and the wider Stonehenge landscape. This paper will cover the results to date.

Weller, Errin (University of Colorado - Boulder)

[81] *Pathways and Roadways: Utilizing Remote Sensing to Identify Monumental Roads in Costa Rica*

Previous research conducted by Dr. Payson Sheets and the Proyecto Prehistórico Arenal has successfully identified prehistoric footpaths in Northwestern Costa Rica. I am expanding the methodology established by this project, combining remote sensing techniques with archaeological survey and excavation, to explore monumental roadways at the little-known nearby sites of Cutris and La Fortuna. Two monumental road networks have been preliminarily identified, with the roads at Cutris being entrenched and 50 meters in width and over 15 km in length. High-resolution Quickbird satellite imagery and black and white aerial photography are promising in identifying the roadways and defining their extent.

Wells, E. Christian (University of South Florida)

[16] *Cultivated Landscapes as Inalienable Wealth in Ancient Mesoamerica*

It is well established that many ancient Mesoamerican peoples perceived cultivated landscapes as animate, that is, inhabited and controlled by ancestors who demand supplication and recompense. Agricultural decision making within this worldview was therefore subject to the inalienability of productive land: to keep (use-rights to the land) one must give (products of the land). Through an archaeological and ethnopedagogical examination of how Maya and Nahua groups classified and conceived of soil and land, I argue that cultivated landscapes were a form of inalienable wealth, whose strategic "circulation" could have provided an ideological—and sometimes practical—basis for hierarchy in community social relations.

[227] *Discussant*

Wells, E. Christian [289] see Moreno-Cortes, Jose E.; [109] see King, Robert

Wells, Joshua and Christopher Andres (Indiana University-Purdue University Fort Wayne)

[174] *Space Syntax for Archaeologists: A Manual for Achieving Replicable and Empirical Data for Studying Spatial Organization*

This presentation synthesizes the archaeological methodologies of Space Syntax, especially in the Americas. It provides analytical instructions, and bibliographic references to facilitate the use of Space Syntax in studies of past spatial organizations. Since Hillier and Hanson published their original suite of spatial measurements and relationships in 1984, archaeologists have employed a variety of Space Syntax techniques to model archaeological spatial patterns from cultures on several continents. The expansion of geographic information systems and other cartographic programs in archaeology have created a research environment that is ready to embrace Space Syntax as an important part of our analytical toolkit.

Wells, Joshua J. [293] see Garver, Lydia

Wendrich, Willeke (Department of NELC at UCLA)

[183] *UCLA Encyclopedia of Egyptology Data Access Level*

Since two years UCLA is developing an online encyclopedia of Egyptology (UEE) which sets out to be a comprehensive scholarly web resource. Apart from article texts, images, interactive maps, VR models and enhanced search functionality, the UEE also allows archaeologists to archive and publish data, which in future will be connected to online publications. The UEE-DAL is envisioned as an open source service which will encompass both ongoing field work, excavations and 'heritage' data (unpublished data from past excavations). Project information can be found at <http://www.uee.ucla.edu/>

Wendt, Carl (Cal State University - Fullerton) and Peter Stanslow (Cal State Fullerton)

[87] *How the Olmec Processed Bitumen: Evidence from Experimental Archaeology*

This poster examines the organization of bitumen processing activities among the Olmec. Data from field and laboratory experiments are used to explore how ancient bitumen processing was performed and organized. Domestic production specialization and scheduling are also considered. The role of bitumen and bitumen processing activities in the Olmec economy is evaluated to investigate the various ways producers were incorporated into the Olmec political economy.

Wentz, Elizabeth [224] see Hill, Brett

Wenzel, Kristen (Texas Army National Guard), Karl Kleinbach (Center for Environmental Management of Military Lands-Colorado State University) and Mark Pane (University of Texas San Antonio)

[311] *Modeling for Management: Explorations in burned rock feature distributions and predictability at Camp Bowie, Texas*

Recent research noted the Department of Defense has been a forerunner in creating predictive archaeological models with GIS, but has not been as successful in applying these innovations to managing resources. Texas National Guard looks to bridge the gap between predictive GIS modeling and resource management through an investigation of burned rock features at Camp Bowie, Texas and Fort Hood, Texas.

Werness, Maline (University of Texas, Austin)

[310] *A Case For Continued Interaction Across the Maya Region During the Terminal Classic Period*

Excavators in Caracol uncover sherds of a ceramic depicting two seated figures. On the other side of the Maya world, archaeologists in the Yucatan peninsula find a small bowl representing God L. While differing in iconographic content and form, each vessel's imagery can be associated with the highly repetitive scenes found on Terminal Classic period Pabellon Molded-Carved ceramics, which were distributed across the Maya region. This paper will address the surprising continuity in Pabellon imagery while demonstrating the existence of widespread social networks during a time when the Maya region is thought to develop more regionalized, isolated identities.

Wernke, Steven (Vanderbilt University)

[13] *Excavating between the Lines: Textual Silences and Missionary Archaeology in the Colca Valley, Peru*

Understanding of early missionary encounters in the Andes has been hindered by scanty coeval documentation and archaeological research. Ecclesiastical memorials of early evangelical campaigns generally extol triumphalist narratives of mass conversion and extirpation that are suspect, given demographic imbalances between clerics and indigenous populations, and cultural differences inherent to early contact situations. This presentation reviews such representations in memorials of the initial Franciscan presence in the Collagua province of southern Peru, and compares them to excavation findings from a chapel at an early mission there. Architectural and mortuary evidence suggest accommodationist compromises and hybrid practices not evident in ecclesiastical accounts.

Wernke, Steven [88] see Williams, Travis M.

Wero, Shane (Navajo Nation Archaeology Department)

[299] *A Traditional Navajo Approach in Conducting Archaeological Investigations on the Reservation*

The focus will be a discussion on traditional Navajo thought processes coinciding with archaeological methods. The philosophical concepts borrowed from Navajo philosophy will be the topic of discussion and ways it can merge with archaeological investigations. These concepts of Navajo philosophy are Nitsahakes, Nahat'a, lina, and Siihasiin. Four concepts that convey the cyclical thought process of traditional Navajo people. These Navajo concepts mirror the scientific thought process for Navajo students to grasp a scientific and holistic picture of the archaeological record. In the end it provides a framework for Navajo archaeology students in effort to best preserve their cultural heritage.

Wesolowski, Veronica and Sheila Mendonça de Souza (FIOCRUZ)

[139] *Sambaquis: A Brazilian Myth Of Well Succeeded Foragers?*

More than 1.000 Brazilian sambaquis, up to 400m long/30m high, are concentrated around shallow salt waters preserving hundreds of burials, artifacts, vertebrate and invertebrate remains. They are dated from 8.000 to 1.500 ybp. Hegemonic interpretation consider them forager's settlements and/or funeral monuments, a testimony of a well succeeded lifestyle. Recent studies on archaeology, zooarchaeology, bioarchaeology, nutrition and demography bring new prehistoric interpretation. Archaeological visibility and skeletal preservation strongly contribute to the idea of big populations. New nutritional datum contribute to rethink the concept of foragers living on molusc. New models help to explain lifestyle and time and space persistence.

Wessen, Gary (Wessen & Associates)

[60] *The Archaeology of Paleoshoreline Sites on the Northwestern Olympic Peninsula*

Archaeological sites in forest settings on the northwestern Olympic Peninsula appear to be associated with an earlier sea level stand and suggest that marine bays were present in what are now coastal river valleys. Most of the sites contain both shell midden deposits and overlying non-shell cultural deposits that are rich in chipped stone artifacts. Radiocarbon dates indicate that they represent occupations between approximately 4,500 and 1,500 years ago. The shell midden deposits in these sites are dominated by marine resources, including whales, and show that a sophisticated maritime culture has been present here for at least several millennia.

Wesson, Alex (SWCA Environmental Consultants)

[222] *From One Hand to Two: Formative Ground Stone Technology and Agricultural Intensification in Ridges Basin, Colorado*

From 2002-5, SWCA Environmental Consultants excavated 74 archaeological sites southwest of Durango, Colorado, for the Animas-La Plata Archaeological Project. Sixty-two of the sites date to the Pueblo I period (A.D. 750-900). Analysis of ground stone artifacts was conducted to quantify the relative importance of maize agriculture in the subsistence strategies employed by the Pueblo I-period inhabitants of the project area. Preliminary results suggest that, although there is ample evidence of agricultural intensification, wild floral and faunal resources may have played a greater role in the project area than in other parts of the region during this time period.

West, Catherine (University of Washington)

[230] *The Effects of Changing Climate and Resource Availability on the North Pacific Cod Fishery*

The Pacific salmon fishery is commonly the focus of archaeological research along the northeastern Pacific Rim, but recent archaeological investigation indicates that cod species dominate zooarchaeological assemblages in this region. While explanations for the high relative abundance of archaeological cod remains have been varied, paleoenvironmental reconstruction and fisheries ecology research suggest that changes in climate conditions have influenced the abundance of cod and salmon species in the northeastern Pacific Ocean. Stable isotope analysis and zooarchaeological remains collected from Alaska's Kodiak Island are used to test the idea that prehistoric people adapted the fishery to accommodate climate change and resource fluctuation.

West, G. James [210] see Johnson, John R.

West, Heather [281] see Sheehan, Michael S.; [104] see Hedquist, Saul L.

Westley, Kieran (Dept. of Geography and the Archaeology Unit Memorial University of Newfoundland), M.A.P Renouf (Archaeology Unit, Dept of Anthropology & Archaeology, Memorial University) and Trevor J Bell (Geography Dept. Memorial University)

[235] *Mapping submerged coastlines: Postglacial sea-level history and the reconstruction and assessment of Newfoundland's coastal archaeological heritage*
Holocene relative sea-level (RSL) change on Newfoundland has been spatially and temporally complex, involving coastal submergence and emergence at different periods. Consequently, many coastal areas favoured by its earliest inhabitants - the Maritime Archaic Indians – now lie underwater. This paper will demonstrate how the changing spatio-temporal distribution of these critical environments can be reconstructed using a combination of existing field observations and geophysical models. This allows areas of high archaeological potential to be pinpointed and targeted for subsequent survey, while the refined knowledge of RSL trends allows assessment of the vulnerability of coastal archaeological sites to future sea-level rise.

Whalen, Kathryn and Douglas Perrelli (University at Buffalo, Archaeological Survey)

[127] *A Cross-Feature Lithic Analysis of the McKendry Site, Western New York State*
The McKendry site is a multicomponent site in western New York State located in the town of Hanover near the eastern shore of Lake Erie. The flakes from this site will be analyzed by feature (with the plowzone being considered one large overlaying feature) to see if there is any difference between the Archaic component and the Woodland component. The results of this analysis will be compared to other sites data to see if there is a correlation between lithic debitage characteristics.

Whalen, Michael (University of Tulsa)

[34] *Investigating the Origin of Casas Grandes*

Di Peso originally attributed the origin of the center of Casas Grandes to impulses coming from north-central Mesoamerica, via Pochteca, or traveling merchants. This concept has been much critiqued, but the literature continues to be dominated by models linking the rise of the center to impulses coming from the outside, whether from northwestern Mesoamerica or from the U. S. Southwest. In contrast to this position, other interpretations see the rise of the center as due to local impulses. None deny the importance of Mesoamerican contacts, but this paper evaluates the role that they played in the rise of Casas Grandes.

[34] *Chair*

Whallon, Robert (University of Michigan)

[270] *Style as Stored Information*

It is well known that style in items of material culture encapsulates and conveys information of various sorts. Two of the common levels of such information are individual identification and expression of group affiliation. In this paper, it is argued that in small-scale, hunter-gatherer bands material culture style primarily expresses individual identity, and reflects regional social connections and networks. Thus, a band's material culture captures and stores recent group history. In contrast, style in the material culture of more larger-scale societies primarily reflects group identities and marks boundaries. The contrast is illustrated with ethnographic examples and data.

[270] *Chair*

Wheaton, Gene (Western Cultural Resource Management)

[126] *Recognizing and Differentiating Protohistoric Occupations in southern New Mexico and West Texas*

The difficulties in recognizing and differentiating protohistoric occupations in southern New Mexico and west Texas are well known. Protohistoric features and artifact assemblages are

difficult to recognize and isolate, particularly at sites with multicomponent assemblages. Fourteen protohistoric radiocarbon assay dates were recovered from features associated with nine different multi-component sites. The dates are usually associated with relatively mobile hunter-gatherer groups occupying the Southwest during the protohistoric period. The analysis of artifact assemblages attributed to the protohistoric and early historic period such as those recovered from the AT&T NexGen/Core Project bring focus to the typological classification of protohistoric sites.

Wheeler, Charles (Western Cultural Resc Mgmt), Thomas Lennon (WCRM, Inc) and Tim Kearns (WCRM, Inc.)

[212] *They Don't Teach This in Graduate School! Poison Gas, Stolen Trucks, and Peculiar Personnel: Lessons from a 900-Mile Fiber Optic Line*

Large project management has become increasingly difficult, and we are often poorly prepared to implement these undertakings. The need for responsible research often conflicts with client goals. Social, natural, and other phenomena impact our ability to execute and complete projects. Skilled technicians with professional supervision operating within a reasonable schedule are necessary and must be balanced against client schedules driven by contractual commitments, financing issues, construction costs, and other criteria. The AT&T NexGen/Core Project, a fiber optic line across the southern Southwest, provides an example of the processes, problems, and solutions inherent in the execution of large cultural resource projects.

Wheeler, Derek [124] see Cooper, Leslie

Wheeler, Sandra (University of Western Ontario)

[217] *Times They Are A 'Changin': Health and Mortuary Perspectives of Children and Childhoods from the Kellis 2 Cemetery, Dakhleh Oasis, Egypt*

Patterns of childhood morbidity, mortality, and mortuary treatment are investigated at the Kellis 2 cemetery (50-450AD) Dakhleh Oasis, Egypt. Over 400 juveniles have been recovered allowing for exploration of complex interactions among biology, culture, and environment, and their effects on lives and deaths of the Kellis 2 children. Unlike other samples from Roman Egypt, children were buried in a similar fashion as adults. Excellent preservation allows for detailed analyses of age at death distributions, specifically fetuses and infants. Over time, prevalence of systematic stress markers in these juvenile remains is contrary to expected findings from earlier groups.

Wheeler, Sandra [217] see Wallace, Elizabeth

Whipple, Bridgette [1] see Martinez, Desiree R.

Whitaker, Adrian (Department of Anthropology University of California, Davis) and William R. Hildebrandt (Far Western Anthropological Research Group)

[36] *The 1500 BP Pinniped Collapse: Why Was the North Coast of California Spared?*

While Pinnipeds appear to have been extirpated from coastal rookeries in Central California, elimination of rookeries is not evident in extreme northern California where large sea lion bones are ubiquitous in the archaeological record and ethnographic accounts document the hunting of sea lions at offshore rocks. Faunal assemblages from two sites in Humboldt County, California are compared to establish the boundary of the 1500 BP extirpation event. Stable Isotope data, conservation theory and ethnography from the Yurok are combined to offer an explanation for the persistence of breeding colonies off the northern California coast.

White, Andrea [51] see Markovics, Michelle

White, Carmen (Simon Fraser University), Chris Springer (Simon Fraser University), Suzanne Villeneuve (Simon Fraser University) and Tanya McMaster (Simon Fraser University)

[133] *Examining causes of variation in small structures at Keatley Creek*

The majority of past work at Keatley Creek focused primarily on large domestic housepits.

Our current understanding of the activities and social groups represented by small remote structures is poor. Research on the South Terrace presents different possible causes of variation in small structures, focusing on results from structures 112, 108, 116, 107 and 9. Previous work on small structures on the Northeast Terrace and core of the site are also discussed. The significance of this work lies in its potential in increasing our understanding of the internal dynamics of the past social organization of Keatley Creek.

White, Chantel (Boston University)

[168] *Macrobotanical and Phytolith Analyses at the Neolithic Site of el-Hemneh, Jordan*
The multi-component Pre-Pottery Neolithic site of el-Hemneh has been extensively sampled for both charred macrobotanical remains and phytoliths over the past four seasons of excavation. In addition to unique information concerning local environmental conditions and decisions regarding plant use, the comprehensive sampling strategy utilized at el-Hemneh offers an opportunity to address problems affecting the preservation, recovery, and interpretation of different types of botanical data. Here, phytoliths and charred seeds recovered from Pre-Pottery Neolithic contexts are analyzed in tandem to address specific taphonomic processes and potential biases in the interpretation of the resulting datasets.

White, Christine (University of Western Ontario), Douglas Price (The University of Wisconsin, Madison), Fred Longstaffe (The University of Western Ontario), Karyn Olsen (The University of Western Ontario) and Michael Spence (The University of Western Ontario)

[134] *Examining sacrifice: The symbolic role of "the other" and the ideological role of the warrior*
Contrasts in the cultural meaning of mass burials whose occupants have died violently as a result of political mandate are examined with isotopic evidence for geographic origins of such dead at the Feathered Serpent Pyramid and the Moon Pyramid in Teotihuacan, and at Altun Ha. Deaths involving meaningful surrender should be considered sacrifice, but we suggest that the use of foreigners or "the other" as political tools does not constitute sacrifice. We also explore the possibility that, for both warriors and commoners, attempts were made to transform "the other" to "us" before execution, and its meaning for sacrifice.

White, Christine [274] see Shaughnessy, Roxane E.; **[180]** see Pereira, Gregory

White, Christine D. [277] see Spence, Michael W.; **[274]** see Hewitt, Barbara R.

White, Christopher (Arizona State Museum, University of Arizona) and Nancy Odegaard (Arizona State Museum)

[65] *How a Conservation Survey Evaluated the Success of Ancient and Historic Repairs to Southwestern Pottery*
A range of materials and methods have been used to preserve ceramic vessels with varying success. Arizona State Museum's pottery collection includes modern conservation materials to period-of-use repairs in older vessels. Analysis of repair materials includes examination with UV-autofluorescence, chemical spot testing, and FTIR-ATR spectroscopy. This study revealed material use patterns correlating to cultural groups and conservation professional practice. By examining repair practices and results we can evaluate collection condition and predict future needs based effective strategies. This research affords the opportunity to look forward and backward, identifying patterns in archaeological methods, museum management and conservation.

White, Devin (ITT Visual Information Solutions)

[46] *Predicting Pedestrian Movement in the Western Papaguería Using Networks of Least Cost Routes*

This poster presents a novel GIS- and remote-sensing-based approach for predicting the locations and functions of prehistoric trails within a subset of the Western Papaguería that is roughly 65,000 square kilometers in size. The approach takes into account the weight of the traveler, any additional weight they are carrying, walking speed, slope, ground cover, caloric expenditure, distance, and multiple potential starting/ending points for travel. Vast

networks of predicted routes were generated and their locations were compared to those of known trails. Overall prediction accuracy was 75-90%. Trails that could not be found were generally associated with potentially impractical, ideologically-motivated travel.

White, Joyce (Univ of Pennsylvania Museum) and Elizabeth Hamilton (University of Pennsylvania Museum)

[96] *Southeast Asian Early Bronze Metallurgy: A Complex Technological System in a Heterarchical Social Context*

Appearing in northeast Thailand about 2000 BC, early Southeast Asia bronze metallurgy challenges conventional expectations for the socio-economic significance of this technology. The very complexity of bronze technology inherently qualifies it as a "complex technological system," yet the social context in which the early technology took root and initially flourished was not overtly stratified. Activities necessary to maintain this technology took place in decentralized arenas, via household production and some specialized production communities. The abundance of regional copper and tin resources may help explain the early development of bronze technological competency in Southeast Asian non-stratified societies.

White, Joyce C. [141] see Arrell, Katherine E.; [141] see Given, Olivia N.

White, Julie-Anne (University of Calgary)

[320] *A MH-LIP Mortuary Ceramic Assemblage from Ccotoccotuyoc, Peru*

In 2005 and 2006, several funerary contexts were excavated at the site of Ccotoccotuyoc in the southern highlands of Peru. These excavations yielded a ceramic assemblage spanning the Middle Horizon to Late Intermediate Period transition in the Huaro valley. Recent stylistic analysis of the whole vessels and ceramic sherds provides an initial line of evidence for regional material continuity as broader socio-political changes were taking place following the end of Wari influence in the area.

White, Mark [154] see Nowell, April

White, Susan

[70] *Adipocere - A Suitable Case for Review*

Adipocere's ability to resist degradation and preserve soft tissues bestows major forensic value. It is the most frequent inhibition of post-mortem change in interred corpses. Also identified with water-borne cadavers, adipocere's association with dry/aerobic conditions is little known. The last major reviews were published over 40 years ago. Subsequent research has been overlooked, while significant discrepancies/errors in the literature remain unchallenged. Other disciplines have provided considerable evidence against traditional hypotheses. Rather than the conventional simple biotransformation process, at least four inter-related processes may occur. A fuller understanding of adipocere formation may help to shape forensic taphonomic interpretations.

White, William (Northwest Archaeological Associates, Inc.)

[27] *A Kindergarten at the Camp: Japanese Women and Children in Mukilteo, Washington*

Japanese Gulch was an ethnic community formed around immigrant families in western Washington. In addition to a large population of male Japanese mill workers, women and children comprised the core of this community. Tableware, health and beauty aids, toys and other items purchased during the early twentieth-century provide insights into Issei ambitions for their Nissei children growing up in the United States. The contrast between this archaeological assemblage, historic records, ethnographic interviews, and photographs indicate a complex relationship between aspirations and behaviors in this working-class American community.

White, Xanius/Elroy

[18] *Internalist Archaeology: Not Just for First Nation Archaeologists*

In my pursuit to better understand the diverse Heiltsuk archaeological record, I employ the theoretical framework of internalist archaeology. The main benefit of this approach is its strong community approach from the hereditary, elected leadership and resource manager

who are guided by their oral history laws and protocols. As I will outline in this paper, this approach enables the Heiltsuk community to have direct input to interpret and manage their ancient and recent past. Yet, time, effort and building community capacity are needed to operationalize Heiltsuk internalist archaeology into everyday practice.

Whitehead, William (Ripon College)

[244] *The Taraco Archaeological Project Data Management Program*

Over the last decade the Taraco Archaeological Project has amassed an extraordinary amount of data from 6 seasons of excavation. Managing and making this data available has been a challenge and a custom built database in Filemaker Pro was created for purpose. The data structure, examples of multiple application integration and the potential for advanced analysis will be presented. Also the plans for creating a Pan South American database based on the TAP database model will be presented.

Whitehead, William [88] see Green, Kelsey

Whitley, Catrina (Southern Methodist University)

[20] *The Bioarchaeology of the Pithouse to Pueblo Transition on the Taos Frontier: Health, Labor, and Interpersonal Violence*

The late twelfth and thirteenth centuries witnessed marked alterations in Taos District settlement patterns. Changes in procurement strategies, aggregation, and increasing pressures from violence resulted in differences in the health, labor practices and interpersonal violence between the pithouse and pueblo periods. This paper analyzes the health, occupational changes, and evidence of violence in the Late Developmental to Late Coalition Periods, A.D. 1050-1320, in the Taos District, and places the data in a regional framework to assess whether the differences are local phenomenon or reflect general trends in the pithouse to pueblo transition in the Northern Rio Grande.

[20] *Chair*

Whitley, David [71] Discussant

Whitman, Linda

[9] *The Many Hats of Public Archaeology at the University of Akron, Ohio*

The Community Archaeology Program at the University of Akron combines applied archaeology, community based research, service learning, community service and occasionally compliance archaeology. Its goal is to assist community organizations and public and government agencies with management, preservation, interpretation and educational purposes through archaeological research. Community involvement not only builds public support for the stewardship of archaeological sites but also enriches the quality of the archaeological research. Throughout the process, our students benefit through service learning and internships. This paper provides case studies of the mutual benefits of public archaeology to the community and to our students.

Whitmore, Alissa (University of Iowa)

[94] *Methodologies for examining Gender amongst Hunter-gatherers in Prehistory during the Paleolithic and Mesolithic in Europe*

This presentation discusses the methodologies used to examine gender roles and relationships amongst hunter-gatherers in prehistory during the Paleolithic and Mesolithic in Europe. One problem this poster addresses is the general mixing of theories, methodologies, and data sets within gender archaeology, which leads to a state of confusion regarding what we can know from the archaeological record. In addition to examining past and current literature, this presentation strives to synthesize these methodologies, and such work should begin to make all archaeologists begin to feel more comfortable investigating and discussing this important topic in all facets and locales of archaeological research.

Whitridge, Peter (Memorial University of Newfoundland)

[17] *Changing constructions of lived space during the Inuit colonization of northern Labrador*

Following Inuit colonization of Labrador in the fifteenth century, the winter dwelling passed through a series of reorganizations that reflect, in part, accommodations to the changing ecological and economic milieu brought about by the Little Ice Age and European contact. Although the emergence of large multifamily dwellings has attracted the most archaeological attention, this was only one moment in a long trajectory of shifting household labor organization that implicates a range of spatial settings beyond the iglu. The wider context of Inuit lives, from village play to roaming the land, needs to be drawn into archaeological accounts.

Whittaker, John (Grinnell College) and Kathryn Kamp (Grinnell College)

[154] *Simple Tools, Complex Concepts: Mobility and Ethnicity in the SW*

In the past thirty years lithic archaeology has progressed from considerations of typology and function to addressing social and even symbolic reconstructions. One central interpretive concern is the degree of settlement mobility shown by a population. A second interest is in tracking the movement and interactions of ethnic groups using artifacts seen as regionally, and perhaps symbolically, distinctive. Our material from several Sinagua sites around Flagstaff, Arizona, suggests that both these issues are too often treated simplistically. The argument that mobile people are more likely to make formal tools while sedentary folk prefer ad hoc equipment seems particularly rife with definitional problems and overgeneralization, while issues of ethnic style identification are muddled by functional, technological, and material variability as well as the difficulty of deciding whether artifacts, people, or both are moving.

[95] *Discussant*

Whittaker, John [267] see Kamp, Kathryn

Whittenburg, Karla (Arcadis U.S., Inc.)

[225] *Get Your Own Horse! An Analysis of the Pictographs in Two Colorado Caves*

The White River Plateau is home to some of Colorado's most extensive cave systems, yet only two of these caves show evidence of past cultural activity. In both caves, pictographs tentatively assigned to the Protohistoric Period occur in the chambers nearest the entrance, but there is no evidence that the deeper chambers were utilized. Shield Cave, the least accessible of the two caves, is still visited by the Ute, while Sweetwater Indian Cave has been all but forgotten. This paper seeks to address why only these two caves contain known cultural activity and why only one is still utilized.

Whittlesey, Stephanie (SWCA Environmental Consultants)

[177] *The Cleansing Fire: Quetzalcoatl and Hohokam Mortuary Practices*

Many aspects of Hohokam mortuary practices and associated rituals involved the use of fire and ceremonial destruction, such as cremation of the deceased and accompaniments and the deliberate destruction and burning of objects buried in ritual caches. These practices recall the Quetzalcoatl myth and its associated cosmology and iconography and imply the existence of an ancestor cult among the Hohokam. Long-held notions about connections between Mesoamerica and the Hohokam are supported. This paper explores meaning, myth, and metaphor in Hohokam mortuary ritual.

[177] *Chair*

Whittlesey, Stephanie M. [111] see Hesse, Jerome

Wholey, Heather (West Chester University)

[208] *Interpretive Soil Chemistry of Context-Specific Human Activity at an Archaic Period Occupation in Southeastern Pennsylvania*

Geo-chemical soil studies in archaeology have until relatively recently focused on phosphate analysis to delineate horizontal site boundaries or to identify generic intra-site activity areas. The anthropogenic nature of soil chemistry signatures from a variety of elements has not been extensively investigated, especially on apparent seasonal or relative

low intensity use sites. This paper explores the potential afforded by a multi-elemental approach in geo-chemical activity area analysis. Soil chemistry studies from temperate region sites are reviewed, and factors related to the reliability of residual signatures of impermanent occupations, such as environmental context, and length and nature of human occupation are assessed. A study presently being conducted on a context AMS dated to 6020+/-40 BP along the Brandywine River in southeastern Pennsylvania is used to explore the cultural significance of various elements and combinations of elements, and to evaluate the contributions of geo-chemistry in the interpretation of context-specific human activity on relatively short-term occupations.

Whyte, Thomas (Appalachian State University), Christopher R. Moore (East Carolina University), Gwen Robbins (Appalachian State University) and Keith C. Seramur (Appalachian State University)

[99] *The Sorority Skull Mystery: A Case Of Grave Robbing In Boone, North Carolina*
A human skull found in a Boone, North Carolina dumpster in 1995 had been in the possession of a university sorority who claimed to have obtained it from a mail order company for use in initiation rites in 1974. Bioarchaeological, historical, and circumstantial evidence identify the grave of an individual interred in Boone Cemetery in 1954 as a likely source of the skull. However, alluvial sediment found in the ear canal does not match initial samples of Boone Cemetery saprolite. Additional sampling of Boone Cemetery and other local cemetery soils will be undertaken to identify the source of the skull.

Wichlacz, Caitlin (Washington State University)

[126] *Temper and Technology: Analysis of Ceramics from Two Great House Communities in West-Central New Mexico*

Analysis of ceramic tempers from several sites in the vicinity of the Pueblo II (ca. A.D. 1050-1030) great houses of Cerro Pomo and Cox Ranch in west-central New Mexico reveals distinct differences within and between ceramic wares, especially between brown and grey utility wares. The results of temper analyses, when combined with analysis of locally available clay resources and typological assessment of site ceramic assemblages, provide data used to evaluate local ceramic production and distribution and guide inferences related to the interactions and historical backgrounds of the communities.

Widmer, Randolph (University of Houston)

[148] *Research strategies for investigating the emergence of foraging sociopolitical complexity in south Florida*

Aboriginal prehistoric groups in south Florida developed complex sociopolitical organization without economic reliance on agriculture. To date, most models, including my own are theoretically based and not grounded in archaeological data. I present a series of archaeological correlates for tracking this development and perspectives on research strategies that should be implicated for future research into this topic. Of considerable importance is tracking demographic processes that are associated with this sociopolitical development and dating both the cultural and natural changes that are occurring in south Florida that are important factors in the evolution of this complexity.

Widmer, Randolph [14] see Storey, Rebecca

Wiessner, Pauline

[270] *Just talk? Conversation, Information and Social Navigation among the Ju/'hoansi Bushmen*

Social information transmitted in daily gossip is some of the most important information transferred across space and through time in hunter-gatherer societies. Gossip gives people the necessary information to navigate in the social and physical environment, builds or dismantles reputation, and brings those who transgress norms back in line. Because visiting circulates gossip over hundreds of kilometers, it standardizes norms within the population, producing a predictable social landscape. Data from 308 Ju/'hoansi conversations in 1974-5 and 1996-8 will be analyzed to show how, despite change with innovations, certain essential rules, norms and values are transmitted and maintained.

Wigand, Peter (Great Basin & Mojave Paleoenvironmental Consulting & Research)

[278] *The Paleoecological Context for Late Quaternary Cultures on the Snake River Plain of Southern Idaho, USA*

Pollen from dry caves, and wetlands, and plant macrofossils from ancient woodrat middens provide the basis for reconstructed vegetation and climate history for southern Idaho's Snake River Plain. Lying on the transition between maritime and continental, and Arctic and Southwestern climatic regions, southern Idaho plant and animal communities have reflected late Quaternary climate shifts. Analysis of new pollen cores from Gray's Lake SE Idaho are adding detail to vegetation history, and their climate drivers, and are providing new understandings of marsh and fire dynamics. A more robust understanding of Holocene environments, and cultural change in southern Idaho is emerging.

Wigen, Rebecca [225] see McLaren, Duncan S.

Wigmore, Oliver [297] see Dodge, Robyn L.

Wikell, Roger, Fredrik Molin (Tyresta Forest Foundation, Sweden) and Mattias Pettersson (Tyresta Forest Foundation, Sweden)

[159] *Mesolithic Quartz knapping along the sea-shore in Eastern Middle Sweden*

During the Mesolithic Eastern Middle Sweden constituted of vast archipelagos. Along the shores of the ancient Baltic Sea is seal and fishing camps situated. Quartz is the most common lithic material in the region suitable for tool-making. Some recently excavated knapping floors reveals strategies and skill in the Mesolithic lithic technology.

Wilcox, David (Museum of Northern Arizona)

[154] *Depositional Processes and Social Groupings at a Cohonina Homestead, the Rolling Rock Site*

I once was to do a dissertation for Arthur Jelinek on depositional processes and household definition at a small pueblo site. But to my amazement a report I did on the Casa Grande was found acceptable instead. Subsequent studies of other sites applied similar methodologies. At the Rolling Rock site, a 3 pithouse/2 jacal Cohonina homestead, microstratigraphic methods are used to define contemporaneity and the nature of social groupings. This study is now offered to Dr. Jelinek, not as a dissertation, but as a tribute to the enduring value of his teaching.

Wilcox, Michael (Stanford University)

[1] *Indigenous Archaeology at Old Cochiti: Terminal Narratives and the Pueblo Revolt*

In the last decade, the Pueblo Revolt of 1680 has attracted the attention of historians and archaeologists. A collaborative project between the Pueblo of Cochiti and UPenn provided the context for new research questions to be explored. Is the post-contact period best understood as the beginning of the end for the Pueblos (as many contact period narratives suggest)? Are these "Terminal Narratives" appropriate? Or do collaborative methods require and generate narratives of continuity, linking the Pueblos to an ancestral material landscape? Archaeological and historical narratives of contact and change are challenged through collaborative methods and an emergent Indigenous archaeology.

Wilcox, Sarah (SWCA Environmental Consultants)

[222] *The Animas-La Plata Project: Lab Management from the Field to Curation*

This poster outlines the processes used to manage the materials recovered from the Animas-La Plata project, a large excavation project in Southwestern Colorado involving hundreds of thousands of artifacts and samples. The poster describes how artifacts and samples were documented in the field, entered into the lab system, tracked before and after analysis, and prepared for outsourcing. One challenge of a large project is building a system to effectively manage artifacts in a manner that can accommodate each analyst and the research questions. This poster demonstrates how this task was accomplished and how collections are being prepared for curation.

Wiley, Kevin (SUNY Buffalo)

[264] *Reflections in the Landscape: Norse Identity in Greenland*

Norse settlers inhabited colonies in Greenland for roughly the first half of the last millennium. Ways in which features of Norse Greenlandic society were represented in the physical landscape are explored through GIS spatial analysis; these include the function of fjords as parish boundaries and distribution of quality pasturelands. Layers of power appear to resonate at the church sites, especially the seat of the episcopal bishop at Gardar. Examination of burial patterns demonstrates that settlers themselves played an active role in creating this power. The overwhelming power of this place led in part to the collapse of the Norse colonies.

Wilhelm, Kelly

[48] *Metallurgical Provenance Study: Transition from Bronze Age to Iron Age in Northern Europe*

Throughout the Bronze Age elites of northern Europe had power over bronzesmiths by limiting resource availability, such as tin, which was likely transported from England. With the development of iron technology, smiths had some autonomy from elites since iron was found locally. Without elite control, ironsmiths experienced more social and political freedom. Using a TIMS to determine lead isotope ratios in pre-Roman bronze and iron objects from Nijmegen, Netherlands, will locate the raw materials source. Distance of the raw materials from the find site will help exemplify this Iron Age transition from elite controlled bronzesmith to a more autonomous ironsmith.

Wilkinson, Darryl and Severin Fowles (Columbia University, Barnard College)

[290] *The Navigation of Landscapes, the Construction of Subjects, and the Reproduction of Society*

In this paper we explore how the patterned movement of individuals through landscapes contributes to the construction of subjects and the reproduction of society. Building from Ingold's discussion of the acquisition of skill through material engagement, we extend the notion of skill to encompass cultural competence generally, otherwise viewed as the set of more-or-less normative dispositions that lead individuals to act in culturally explicable ways. In doing so, we relate "ways of moving" to "ways of being", and we consider the potential contributions of archaeological studies of movement to practice theory, broadly conceived.

Wilkinson, Tony [137] see Studevent-Hickman, Benjamin

Wille, Sarah (The Field Museum)

[97] *Ancient Maya Sociopolitics and Community-Building at Chau Hiix*

Investigations at the Maya site of Chau Hiix suggest strategic use of ritual in the Terminal Classic as a sociopolitical strategy as indicated by a dense collection of archaeological materials on the site's main platform. This paper describes Feature X02—an elaborate and intentional deposit at Chau Hiix—while considering the range of possible activities responsible for the concentration of materials. The importance of the deposit lies in the information it provides about community interactions during the tumultuous Terminal Classic, and why Chau Hiix remained cohesive while other lowland Maya centers experienced great change and disuse following the Later Classic period.

[166] *Discussant*

Willerslev, Eske [256] see Gilbert, Marcus Thomas P.

Willey, P. [258] see Crothers, George M.

Williams, Hope [149] see Minichillo, Tom

Williams, Joel (URS Corporation) and Susan Jansen (URS Corporation)

[258] *A Correlation of Prehistoric Earthen Mounds and Caves in and Around Saint Louis, Missouri*

Numerous caves and prehistoric mounds have been reported in the St. Louis, Missouri area. In some cases, mounds appear to have been located proximal to or even situated

directly above subterranean caves. While many of the mounds have been damaged or completely leveled due to agriculture or encroaching development, historic maps and accounts that date prior to the destruction of the mounds allow for the reconstruction of some of their original locations. Geographic Information Systems (GIS) will assist in analysis of this information. The correlation between mounds and caves suggests a cosmological basis.

Williams, Judith (Fine Arts Department The University of British Columbia)

[243] *Clam Gardens: Aboriginal Mariculture on Canada's West Coast*

Information from Klahoose elder Elizabeth Harry prompted a 1993 exploration of rock walled terraces constructed for the cultivation of butter clams in Waiatt Bay, Quadra Island. The multiple clam gardens observed prompted the proposition that Waiatt structures, and similar Broughton Archipelago terraces, constituted a form of aboriginal mariculture. The technology allowed enhanced recruitment of specific clams that were a crucial dietary component for some native groups. The extent of clam garden usage suggests some butter clam residue dominating shell middens in coastal sites was a product of deliberate enhancement of extreme low-tide shellfish habitat.

Williams, Lana (University of Western Ontario)

[217] *Unusual Modes of Production: The Seasonal Birthing Cycle of Women from Kellis 2 Cemetery (50-450AD), Dakhleh Oasis, Egypt*

Ancient epigraphic sources have provided sparse evidence of seasonal birthing cycles for populations of the Roman Empire as few sources provide large numbers of birth records. Excellent preservation and sample size of the Kellis 2 cemetery population allowed for detailed analyses of seasonal cycles in infant birth and mortality and mortality patterns in birthing age women. Comparative analyses indicate patterns of infant birth and mortality that are opposite to the rest of the Mediterranean. In addition, seasonal mortality of infants and women is directly associated with the birth cycle and affects the seasonal amplitude in mortality patterns of the population.

[217] see Dupras, Tasha L

Williams, Leslie (Department of Anthropology, The Ohio State University)

[130] *The Johnstown Flood of 1889: demographics, recovery, and funerary treatment in a historical mass disaster*

Historical accounts of well-documented disasters have tremendous potential to increase our understanding of how those events affected past communities. Using historical records and victims' lists, this project examines the Johnstown Flood of 1889 and its signature on the local community. In particular this study focuses on the recovery, demographics, and funerary treatment of the victims. Over 2200 individuals perished in what was considered the worst U.S. disaster of the 19th century. These victims were more likely to be women and children, and the recovery and eventual burial of their bodies proceeded rapidly and systematically, especially considering the degree of destruction.

Williams, Patrick (Field Museum Anthropology) [263] Chair**Williams, Scott (Department of Archaeology and Historic Preservation) and Kathy Callum (USDA Natural Resources Conservation Service)**

[306] *Predictive Modeling of Paleo-Indian Sites Around Puget Sound*

With the exception of isolated finds of Clovis points made by farmers, hunters, and construction workers, no late Pleistocene sites are known from western Washington or the Puget Sound region. This paper explores some of the geological, environmental, and methodological factors that have prevented discovery of sites of this period, and discusses methods of predictive modelling that may assist in locating such sites.

Williams, Scott [60] see Schumacher, James

Williams, Sloan (University of Illinois At Chicago) and Ken Batai (University of Illinois at Chicago)

[312] *Mitochondrial Genetic Patterns at Kilometer 4, Peru*

Mitochondrial DNA haplogroup frequencies were constructed from two ancient Peruvian populations, Kilometer 4 and Chiribaya Alta, from the coastal Osmore valley. These results were then compared with published mtDNA haplogroup frequencies from 29 ancient and modern South American populations. Our data suggests population continuity through time in the Osmore Valley. Our two samples are similar to each other in genetic composition and do not significantly differ from a Middle Horizon Osmore mid-valley sample. These results differ from a recent study of northern Chilean samples that suggested population change with possible population replacement there.

Williams, Sloan [177] see Forgey, Kathleen

Williams, Travis (Vanderbilt University) and Steven Wernke (Vanderbilt University)

[88] *A GIS-Based Simulation of Colonial Resettlement and Terrace Abandonment in the Colca Valley, Peru*

This poster examines the effects of forced resettlement on patterns of colonial-era agricultural de-intensification. Situated in the Colca Valley of southern Peru, this analysis employs LCP-based walking simulations to and from agricultural fields declared in colonial Spanish administrative documents. The walking simulation results indicate that patterns of terrace abandonment are partially explained as a function of distance, but also suggest how resettlement disproportionately affected lower-ranking kindreds in a local dualistic political structure. By extension, we suggest that the observed patterns of abandonment were a legacy of finely-tuned negotiations that influenced the emplacement of colonial villages in the Andean landscape.

Williams, Veronica (CONICET- UBA)

[13] *Social tension in Northwest Argentina ca. 1000- 1536 d.C*

Currently, anthropologists, archaeologists, and historians are debating how social patterns that reflect violence can be studied in societies. It is likely that Inca society was one of the states with ampler military knowledge and a significant war history. Spanish written records describe a warlike situation before the Inca Empire emerged, in which fights for regional dominion among local leaders were pervasive. Even though, few archaeological investigations have provided material evidence to study those rebellions. We intend to contribute to the understanding of this process providing archaeological and ethnohistorical data prior to the incorporation of northwest Argentina into the Inka Empire.

Willis, Andrew [97] see Ringle, William M.

Willis, Lauren (Southern Methodist University), Jon Erlandson (University of Oregon) and Torben Rick (Southern Methodist University)

[152] *Coastal Foraging and Marine Ecology on Middle Holocene Cuyler Harbor, San Miguel Island, California*

Archaeologists working on California's Channel Islands have emphasized the importance of human subsistence activities, along with climate change, in structuring prehistoric nearshore marine ecosystems. We report faunal data from three Middle Holocene midden deposits, including two dominated by red abalone and another by sea urchins and California mussels, at CA-SMI-161 on San Miguel Island. Differences in the relative abundance of various shellfish taxa appear to be related to human predation pressure and possibly changes in sea surface temperature. These data enhance our understanding of the role of ancient peoples in influencing and impacting ancient Pacific Coast marine ecosystems.

Willis, Lauren M. [174] see Scanlan, Brian L.

Willis, Mark D. [237] see Brown, David O.

Willman, John (The University of Iowa)

[307] *Chipped Stone and a Splitting Headache: Understanding behavior using a lithic assemblage lacking cultural chronology markers from southeastern Iowa*
Prehistoric use of areas rich in lithic raw materials can promote convoluted collections of lithic technological traditions. Assessing "plow zone" lithic assemblages with few chronologically sensitive artifacts in such areas can make it difficult to understand landscape and site use through time. This paper explores these problems using a lithic assemblage from southeastern Iowa. The scatter is metrically and macroscopically analyzed and compared to lithic artifacts from recorded sites in the region. Probabilities are drawn between similar landscapes with recorded sites in the area to support probable settlement types and cultural traditions within a chaîne opératoire framework.

Willman, John [215] see Waterman, Anna J.

Willoughby, Pamela (University of Alberta)

[123] *The Stone Age prehistory of Iringa Region, southern Tanzania*
Genetic, fossil and archaeological data demonstrate the African origin of modern humans during the Middle Stone Age (MSA). But it is not until the subsequent Later Stone Age (LSA) that the technological and social innovations associated with "behavioral modernity" are said to appear. This poster introduces the culture history of two rockshelters in the Iringa Region of southern Tanzania. Between them, the sites include the MSA, LSA and the subsequent Iron Age. Together they offer a window on the critical time period prior to the dispersal of modern humans out of Africa.

Wills, Wirt (University of New Mexico)

[140] *Overview of the Chaco Stratigraphy Project*
The Chaco Stratigraphy Project is designed to address current research issues in the archaeology of Chaco Canyon, New Mexico, that involve stratigraphic data. The first phase of the project has included re-opening archaeological trenches at Pueblo Bonito in combination with remote sensing studies. The second phase involves various analyses of material recovered from the trench re-opening, together with new studies of existing artifact collections. The papers in this session present preliminary results from both phases of the project.

Wilson, Aaron (National Park Service)

[250] *The Imaigenik Site: A Rarely Cited Building Block in the Formation of Irving's Arctic Small Tool Tradition*
William Irving defined the Arctic Small Tool tradition in 1964 based largely on the Punyik Point site in the Brooks Range. Fourteen years prior he excavated at Imaigenik (49-XCL-414), a site that produced a typical ASTt lithic assemblage, as well as faunal remains and a hearth. The site is likely to have been influential in Irving's conceptualization of the ASTt, but because the term had not yet been coined and little was ever published on the site, Imaigenik is rarely referenced. Reanalysis of the site stands to secure Imaigenik's place as an archaeologically and historically significant ASTt site.

Wilson, Douglas

[142] *Exploring Chinook Cultural Contact at Station Camp at the Mouth of the Columbia River*
The Station Camp/McGowan site, at the mouth of the Columbia River, contains the remains of a contact-period Chinook Indian village characterized by abundant fur-trade era goods and well-preserved architectural features associated with at least three plank structures. The Chinookan fur-trade site (identified as the "Middle Village" by Chinook people) contains an abundance of wealth items and a dearth of productive tools and debris within traditional activity spaces. These data suggest the intensity and context of interaction between Native American groups at the coast and Euro-American traders.

Wilson, Gregory (Muhlenberg College)

[134] *Pax, Ritual, And Death: The Appropriation Of Cahokian Political Culture On The Northern Mississippian Frontier*

The regional political stability engendered by the emergence of the Cahokia polity was punctuated by brutal episodes of ritual killings. The Mississippianization of Cahokia's northern frontier was marked by small-scale migrations and the establishment of various Mississippian "outposts" throughout the northern Midcontinent. Incidences of Cahokian-style ritual killings correspond with the establishment of several of these "outposts" indicating that the appropriation of certain kinds of ritualized violence was an important dimension to the processes of Mississippianization along the northern Mississippian frontier.

Wilson, Margaret (University of Michigan)

[90] *A Burning Question: detecting fire using phytoliths*

Archaeologists use phytoliths to reconstruct past environmental conditions, human plant use and diet, and to identify activity areas and tool use. Fire can occur in all of these contexts. Researchers have interpreted variations in the shape, coloration and refractive indices of phytoliths as evidence for burning, but no concrete claims can be made unless the effects of fire upon phytoliths are rigorously quantified. This poster presents the findings of a study into the effects of combustion on phytoliths. I identify several distinctive patterns and outline a preliminary model for quantifying the impact fire has had upon a phytolith assemblage.

Wilson, Michael (Dept. of Geology, Douglas College)

[306] *Bison, Sea Levels, and Corridors: An Early Postglacial Emergent Landscape in Northern Puget Sound and Southern Strait of Georgia*

Emergent lands appeared between 12.0 and 10.0 14C ka around the San Juan Islands, Washington, when isostatic rebound exceeded eustatic sea-level rise. While not a land bridge, this was a biogeographic filter corridor. Orcas Island megafauna included bison and ground sloth, and bison also reached southern Vancouver Island, British Columbia, by 11.8 ka, occupying open pine forest or parklands. Mountain goats were also on Vancouver Island before 12.0 ka. This situation lasted into the time when people, likely big-game hunters, were in the region. New data are presented concerning vertebrate fauna, relative sea levels, and 14C chronology.

Wilson, Nathan

[171] *Wet or Dry: Seasonal Agricultural Potential and Settlement Distribution in La Mixtequilla, Veracruz, Mexico*

The determination of ancient agricultural potential across the landscape is important in understanding the nature of settlement distribution of large-scale sedentary populations. In the Gulf Coast Mixtequilla Region, agricultural potential is primarily influenced by seasonal rainfall patterns and localized topographic variation. Through the incorporation of climatic data, soil assessment, and high-resolution topographic data, potential temporally-differentiated seasonal exploitation of the landscape can be determined. The identification of the seasonal agricultural availability of different portions of the Mixtequilla Survey Region will be used to examine the nature of Classic Period settlement within this area.

Wilson, Rebecca [93] see Herrmann, Nicholas P.

Wilson, Roger (University of British Columbia)

[268] *Hybridization in the first millennium AD Europe: a view from the Roman Empire*

The Roman Empire survived for centuries not because of a brutally imposed imperialism but because of remarkable tolerance towards indigenous social, economic and religious structures. The interaction between Rome and its peoples resulted in cultural hybridization, reflected in such labels as Romano-African, Gallo-Roman and Romano-British. This paper takes two areas, Sicily and Britain, and examines factors which led to hybridization in each case – including the character of pre-Roman society, the role of the army, economic considerations, indigenous cultural resistance, and the degree of outside 'intervention'. There can be no one model, so multi-variant is hybridization in the Roman Empire.

Wilson, Samuel (University of Texas)

[240] *Distance, knowledge, and ritual practice in the Caribbean and Lower Central America*
Recent archaeological research is showing that beyond doubt there were prehistoric interactions between Caribbean people and the people of lower Central America. These apparently long-term vectors of diffusion are difficult to reconstruct in detail, and it is difficult to assess their significance for Caribbean prehistory. This paper will explore new archaeological evidence for the long-distance diffusion of ideas and ritual practices, but will focus on cultural parallels in the cosmology, mythology, and ritual practice of the two areas.

Wilson, Stacie (Jones & Stokes)

[114] *GIS Spatial Analysis of Late Prehistoric Cahuilla Land Use and Post-Contact Influence on Traditional Settlement and Subsistence Patterns*
The Cahuilla of Southern California first experienced European contact in the mid 1770s. Less affected by missionization than other tribes, the Cahuilla were nonetheless influenced by non-native settlement throughout the remainder of California's Spanish, Mexican and American periods. Since 1900, the Cahuilla have been the subject of substantial ethnographic and ethnobotanical research and numerous archaeological sites within their traditional territory have been documented. Few studies, however, have focused on reconstructing broader settlement patterns. This paper uses GIS to synthesize archeological and archival data, producing spatial analyses of pre- and post-contact Cahuilla land use and examining changes in occupancy patterns.

Wilson, Wayne (ATSAA) and Neil Hauser (University of Colorado, Denver)

[308] *Laser Induced Breakdown Spectroscopy for Archaeological Applications*
A Laser Induced Breakdown Spectroscopy (LIBS) system is an analysis tool that allows determination of the elementary composition of materials. The system can be portable for use in the field, is non-destructive and allows rapid "fingerprinting" of materials for identification and/or matching of archaeological artifacts. A primary use of such a system is the correlation of artifacts (i.e. projectile points or chips) with the sources (i.e. quarries) of the raw material. A review of the instrument and analytic processing is presented along with examples of the use of the system for material identification.

Wilson-Skogen, Catherine [230] see Smith, Ross E.

Winkler, Daniel (University of Wisconsin-Milwaukee)

[265] *Late Paleoindian Complexes in Eastern Wisconsin*
The Kelly North Tract at Carcajou Point and Metzig Gardens sites in eastern Wisconsin were both situated adjacent to large wetland areas during the Early Holocene. Based on projectile types, both sites might be referred to the Plano complex. However, the chipped stone assemblages from these sites are very different in raw material type and other technological aspects. The lithics from both sites are compared, and inferences about raw material selection and acquisition are discussed. Other reported Late Paleoindian sites in Wisconsin are used to provide a broader context for lithic technology during the Early Holocene.

Winter, Elizabeth [168] see Casson, Aksel

Winter, Marcus, Cira Martínez López (Centro INAH Oaxaca) and Robert Markens (Centro INAH Oaxaca)

[32] *Early Hunters and Gatherers of Oaxaca: Recent Discoveries*
This presentation documents recent Paleoindian-early Archaic surface finds in the Valley of Oaxaca and the Isthmus of Tehuantepec region as well as excavation of two Archaic sites near Mitla, a rockshelter and an open site.

Winterhoff, Ernest (University of Oregon) and Phillip R. Johnson (Texas A&M University)

[156] *Social Relations at Basalt Adze Production Sites on Tutuila, American Samoa: A Chemical Characterization Study into Intra-Island Distribution*
Prior characterization research has successfully documented the island of Tutuila as an

intensive production source for Polynesian adze distribution from the 11th to 17th century A.D. More recent research has recorded two additional phenomena on Tutuila: 1) neighboring production sites can be geochemically differentiated, and 2) communities contain adzes manufactured from multiple sources. Based on this information, an important behavioral question arises. How was adze distribution organized at the intra-island level? Combining the results of INAA and WD-XRF, the authors analyze new chemical characterization data from adzes recovered near production centers to investigate the dominant mechanisms underlying intra-island circulation.

Winzenz, Karon (University of Wisconsin-Green Bay)

[136] *Functional and Symbolic Bundles on Late Classic Maya Ceramics*

A systematic study of images on Late Classic Maya ceramics has revealed several schematic and emblematic bundle forms that may have their iconic origins in functional prototypes. Narrative scenes of sacrifice, autosacrifice, and offering rituals depict both types. Moreover, miniature "effigy" bundles attached to ritual costume elements and objects likely signified that these items were bundled when not in use. Such schematic depictions add to our knowledge of the iconic conventions used to represent bundling practices of the ancient Maya.

Wise, Karen (Natural History Museum of Los Angeles County)

[312] *Kilometer 4: Introduction and Summary*

Research at Kilometer 4 (K4) in far southern Peru is yielding a wealth of data on Archaic period sequence, subsistence, settlement, technology and mortuary patterns on the Andean coast. Data from K4 support and refine general models of early maritime subsistence, intensification of subsistence and sedentism during the Late Archaic Period, and human response to environmental change as a major factor in Andean cultural history. They also shed light on, and raise further questions about, Middle and Late Archaic Period patterns of settlement, subsistence, technology and mortuary patterns on the entire south-central Andean coast.

[263] *Discussant [312] Chair; [312] see Grayson, Nicci M.; [83] see Coutts, Karen H.*

Wittke, Karen (University of Toronto)

[294] *Frozen in Time: a Thule house from the Sanirajaq site (NeHd-1), Hall Beach, Nunavut*

As a result of cold temperatures, Arctic archaeologists often encounter substantial assemblages of well-preserved organic artifacts. However, interpretation is compromised by the fact that these assemblages represent only discarded or lost material culture, rather than the full suite of implements used by past peoples. This paper preliminarily describes the excavation of a Thule house at the Sanirajaq site (NeHd-1) in Hall Beach, Nunavut. This house yielded an apparently "complete" assemblage of well-preserved, intact artifacts, resulting from the house's abandonment after the death of the occupants. This assemblage allows the reconstruction of a high resolution picture of Thule material culture.

Wobst, H (University of Massachusetts)

[135] *Information in A Non-Modernist Hunter-Gatherer Scenario*

Models of hunter-gatherers usually assume that they are interested in reaching conditions in the future that are more optimal along whatever scale than they were hitherto. What happens to our models if the populations do not separate past, present and future, an ideology about time and information frequently reported for ethnographic hunter-gatherers. Removing modernity from hunter-gatherers significantly changes pay-offs, fitness distributions, and optimal behaviors for the short and long duree, and, thus, expectations and interpretations for hunter-gatherer archaeological records.

Wolf, Marc [257] see Demarest, Arthur A.; [187] see Barrios, Edy

Wolfe, BriAnne (Washington State University) and Colin Quinn (University of Michigan)

[168] *Personal Adornment and Costly Signaling in the Near Eastern Neolithic*

The Neolithic Revolution in the Near East is marked by social, economic, and political change. These fundamental shifts in human lifeways affected how people used material

culture as vehicles of social information exchange. In this case study of personal adornment practices from Dhra', Jordan, we utilize the general approach of costly signaling theory with a focus on scientific principles such as model building, hypothesis testing, and quantitative methodology in order to provide insight into material culture information exchange and the formation of the archaeological record.

Wolff, Christopher (Southern Methodist Univer)

[235] *Why Such A Longhouse?: The Evolution of Maritime Archaic Domestic Structures And Its Underlying Socio-cultural Implications*

The assumption that larger houses equate to some degree of increased social stratification is examined through the investigation of Maritime Archaic domestic structures from Labrador. It is well documented that Maritime Archaic groups lived in progressively larger houses and this process has been invariably linked to increased social complexity. This paper will examine the socio-cultural processes underlying the transition from pithouses to longhouses by the Maritime Archaic, and assess several hypotheses to explain that evolution. Moreover, the relationship between house form and social complexity will be more broadly discussed.

Wolff, Nicholas (Boston University Archaeology Department)

[39] *Geoarchaeology of Iron Age Burial Mounds in Central Lydia*

Results of stratigraphic and geoarchaeological analyses of exposed tumulus (burial mound) profiles provide the basis for models of mound construction. These models are based on detailed field observation and bolstered by the use of analytical techniques such as soil micromorphology, magnetic susceptibility, and loss on ignition. Preliminary issues to be addressed include sourcing of variable materials, phasing and duration of construction, and methods of sediment emplacement. In addition to these functional and mechanical considerations, the social significance of mounds and the process of mound building are addressed in light of the larger mortuary landscape at Bin Tepe.

Wollstonecroft, Michele (Institute of Archaeology, UCL)

[139] *Achaeobotanical research at Cabeço da Amoreira (6630±60 B.P. to 6550±70 B.P.) a final Mesolithic shell midden in the Muge valley, Lower Tagus basin, Portugal.*

This paper reports on the archaeobotany of Cabeço da Amoreira, one among several large Mesolithic shell middens located in the Muge region. Archaeological studies shown that hunter-gatherers used this site for living, burial and rubbish disposal, which suggests that a variety of activities took place. To investigate the roles of plants in this economy, all classes of charred plant macro-remains were retrieved and analysed: wood charcoal, seeds and non-wood vegetative tissue. This holistic approach is considered the best way to study plant-uses by temperate zone hunter-gatherers who typically exploit a wide range of plants and plant-parts.

Wollwage, Lance

[171] *Cenotes, Snails, Soils, and Water Level Shifts in the Yalahau Region, Mexico*

The ancient Maya witnessed substantial environmental changes which affected their cultural fortunes. Cenotes and wetland swales in the northeastern Yucatan Peninsula hold mollusk and sediment-soil records reflecting environmental changes over the last 2,000 years, which impacted ground water levels and Maya settlement and subsistence patterns in the Yalahau Region.

Wolverton, Steve (University of North Texas), Ben Fullerton (University of North Texas, Department of Geography), Julie Densmore (University of North Texas, Department of Geography) and Lisa Nagaoka (University of North Texas, Department of Geography)

[57] *Human foraging adaptations in southeast Texas during the mid to late Holocene*

Human population size and density increased in many areas of eastern North America after the mid-Holocene. In southeast Texas, changes in foraging adaptations reflect intensification of resource use related to broader subsistence and population trends. A large archaeological faunal assemblage that spans much of the second half of the Holocene from Eagle's Ridge (41CH252) indicates that harvest pressure and carcass

exploitation of white-tailed deer (*Odocoileus virginianus*) intensified through time following predictions framed under two theoretical models.

Wolverton, Steve [91] see *Randklev, Charles R.*; [90] see *Barker, Andrew L.*

Wood, Spencer [17] see *Misarti, Nicole*; [220] see *Tews, Amber M.*

Woodfill, Brent

[314] *Ritual, Power, and Supernatural Associations in the Pasión-Verapaz Region, Guatemala*

According to Kertzer (1988), political systems exploit preexisting ritual and symbols to increase their own power. In Hawaii, the rulers used symbols that "stood for" and associated themselves with gods and were the only members of the community with access to god houses. Here, as in Mesoamerica, ritual serves the dual function of associating the rulers to the divine and restricting access to it. This paper is based on seven years of investigation in sacred sites in central Guatemala and will focus on how the local elite restricted access to and associated themselves with the supernatural world.

Woodfill, Brent [187] see *Barrios, Edy*

Woodman, Peter (University College Cork)

[186] *It's Location!*

In discussing colonization and adaptation amongst hunter-gatherers in the context of islands, it is more usual to concentrate on the means of colonization rather than the problems of adaptation. In the case of Ireland, the significance of its particular location on the Atlantic edge of Europe is a significant factor in the manner in which society develops.

Woods, Alexander

[307] *Problems Inherent in Studying the Origins of European Blade Technologies*

Analyses of Upper Paleolithic stone tool industries have been bogged down by ideological baggage and clunky definitions inherited from 19th century paradigms. The appearance of blades has been uncritically used as evidence for behavioral complexity rather than aspects of specific production sequences. This presentation will examine how outdated paradigms have structured recent attempts to identify blades as far back as the Middle Paleolithic. It will be argued that archaeologists need to firmly establish the adaptive advantages of core/blade technology before they can effectively develop methodologies for using variability in reduction strategies to answer anthropological questions.

Woods, Sally [302] see *Lentz, David L.*

Woodward, Jamie (The University of Manchester), Mike Morley (The University of Manchester, UK) and Philip Hughes (The University of Manchester, UK)

[259] *Geoarchaeology And Pleistocene Environmental Change: A Mediterranean Perspective On Progress And Prospects*

This paper reviews recent advances in the study of Pleistocene environmental change in the Mediterranean and outlines the problems involved in attempting to compare these data with the archaeological record. Rockshelters and caves have provided the bulk of the database on Palaeolithic humans in the Mediterranean and these environments have seen some of the closest collaboration between geologists and archaeologists. Whilst major progress has been made in our understanding of both site formation processes and Mediterranean landscape dynamics, it is argued that we need to think about new ways of correlating between sites and linking the on-site and off-site records.

Woollett, Jim (Universite Laval)

[17] *Regional and local archaeological perspectives on changing Inuit communities in northern Labrador*

A range of recent archaeological projects has accumulated a diverse base of zooarchaeological, palaeoenvironmental and settlement data pertinent to the Inuit occupancy of northern Labrador. This paper synthesizes elements of this data in order to

examine the variability of economic activities associated with changing modes of organization of Inuit communities. Social and economic life associated with winter houses at particular villages (Uivak Point 1, Oakes Bay 1, Koliktaik 6 and Komaktorvik 1) will be discussed in order to develop a perspective of agency involved in changing patterns of Inuit community organization in the context of dynamic social and physical environments.

Workinger, Andrew [16] see *Barber, Sarah B.*

Workman, William (University of Alaska Anchorage)

[194] *The Archaeological Record as an Indicator of Resource Instability: The Case of Kachemak Bay, Outer Cook Inlet, Alaska*

Kachemak Bay, a rich but semi-isolated fjord at the tip of the Kenai Peninsula, was occupied for ca. 7000 radiocarbon years by bearers of at least six unrelated cultural traditions. All originated elsewhere and no ancestor-descendant relationship pertains between them. The Kachemak tradition with a duration of 1500+ years is the longest, other occupations were briefer. In comparison, the nearby Kodiak Archipelago was occupied for 7000 years by three related cultural traditions. Reasons for this profoundly non-developmental Kachemak Bay sequence, mirrored elsewhere in Cook Inlet, are to be sought in environmental factors, especially resource fluctuations over time.

Worl, Rosita F. [145] see *Fifield, Terence E.*

Worman, F (University of New Mexico) and James L. Boone (University of New Mexico)

[48] *Historical Ecology, Political Ecology: insights from a geoarchaeological study of Islamic Iberia*

Geoarchaeological research in the Lower Alentejo region of Portugal documented a correlation between dramatically increased rural population densities and widespread soil erosion during the Islamic period. Controlled comparisons between areas with different settlement histories show that landscape change was caused by human activities. Age estimates for strata indicative of hillslope erosion, obtained using OSL and radiocarbon assays in addition to diagnostic artifacts, are beginning to constrain closely the timing of that landscape change. In the context of broader archaeological and historical research, these new data foster new insights into the historical and political factors affecting human interactions with the environment.

Worth, John (Department of Anthropology)

[148] *An Ethnohistorical Perspective on Hunter-Gatherer Complexity in South Florida*

Although South Florida was neither fully explored or assimilated during the Spanish colonial era (1513-1760), ethnohistorical records from this era provide tantalizing clues as to the nature of hunter-gatherer complexity in this broad region. Detailed examination of Spanish sources reveal both similarities and differences between South Florida groups and the more well-documented agricultural chiefdoms to the north. Though variations in both space and time are apparent, South Florida as a whole displays an internal coherence that distinguishes it as a regional subset of the broader pattern of sociopolitical complexity across the Southeastern United States.

Wright, Aaron

[193] *Rational Movements and Ritual Places: Modeling Hohokam Rock-Art Production in the South Mountains, Arizona*

Recent rock-art research has emphasized landscape contexts as means for elucidating relationships between rock-art, ritual behaviors, and culturally significant places. Patterns of movement between such places are of equal importance for understanding the ritual production and use of rock-art. Based on principles of human behavioral ecology, least-cost-path analyses serve to model rational, low-cost choices for accessing places across landscapes. This paper employs such an analysis and compares the distribution of Hohokam rock-art sites in the South Mountains of south-central Arizona with the costs of accessing these places to better assess the social and behavioral contexts of Hohokam rituals.

Wright, Joshua (Department of Anthropology, Peabody Museum)

[190] *Models for the Adoption and Spread of Nomadic Pastoralism in Eurasia*

Pastoralism and nomadic pastoralism are specialized forms of agricultural production, therefore the advent and spread of nomadic pastoralism can be examined in ways similar to the study of the adoption of agriculture. In Northeast Asia nomadic pastoralism is the predominant aspect of Near Eastern agricultural revolution to be adopted in prehistory. This paper will consider ethnographic and historical examples of adoption of mobility and pastoralism into a non-agricultural setting and then turn to an examination of the archaeological record in Northeast Asia to discuss models of this process for that region.

Wright, Katherine [276] see *Russell, Nerissa*

Wright, Patti (Springs Preserve - Research Division) and Joseph Craig (Prairie Archaeology & Research)

[207] *A Comparative Study of Plant Exploitation at East St. Louis, 11S821*

Late prehistoric subsistence practices, social interactions, and environmental impacts are explored through a comparative analysis of carbonized plant remains, variations in vessel morphology, and notations of presence/absence of stone tools and features associated with plant exploitation. Data are derived from the East St. Louis (11S821) site, a late pre-Contact site in the American Bottom of Illinois. This site served as the location of a Mississippian Stirling Phase settlement and a subsequent Oneota Period occupation. Results suggest different patterns of plant exploitation and use were practiced by the Stirling and Oneota occupants of 11S821.

Wright, Patti [167] see *Popelka-Filcoff, Rachel S.*

Wright, Rita [224] see *Schuldenrein, Joseph; [81]* see *Hritz, Carrie*

Wright, Thomas [281] see *Sheehan, Michael S.*

Wright, Wendy Ann (Portland State University) and Virginia L. Butler (Portland State University)

[122] *Archaeological Resource Preservation: Developing a Model for the City of Portland*
Currently, the City of Portland, Oregon has minimal regulations protecting archaeological resources, which is resulting in the loss of scientific information, and important economic and civic engagement opportunities. This paper examines archaeological preservation models adopted by various U.S. municipalities, and also explores the actual process by which preservation policy came to be implemented in Clark County, Washington. An examination of the current legal framework of cultural resource preservation in Portland shows that many of the same strategies for incorporating archaeological resource protection could be applied, coupled with an increased emphasis on community-based archaeology.

Wrinn, Patrick (University of Arizona)

[143] *The Younger Dryas and Late Glacial Hunter-Gatherer Adaptations in Siberia*

The Younger Dryas is represented in numerous terrestrial and lacustrine proxy records of Pleistocene climate in Siberia. It is typically associated with a return to cold, dry tundra-steppe environments and a southern and western extension of the permafrost zone. Late Glacial archaeological sites are numerous along river valleys in the mountains and lowlands of Southern Siberia, but most are undated and few appear to have been occupied during the Younger Dryas. As in earlier glacial periods, human populations may have retreated to protected and ecologically rich mountainous and coastal environments, which repeatedly served as refugia for Siberian flora and fauna.

Wriston, Teresa (University of Nevada, Reno)

[214] *Geoarchaeological Analysis of Phreatophyte Flats*

Early archaeological work near Las Vegas, Nevada documents deep "badland" silts thought to represent relic lake deposits; however, later research revealed that these deposits had

no association with lakes and instead were deposited within spring systems and phreatophyte flats. Depositional processes of phreatophyte flats and their relevance to preservation of archaeological materials are still largely unexplored. New research in the Desert Dry Lake Basin of southern Nevada and Steptoe Valley in east-central Nevada sheds light on these complex depositional systems and their relevance to preservation and management of cultural materials.

Wrobel, Gabriel (University of Mississippi)

[102] *Mortuary Ritual at Caves Branch Rockshelter, Belize*

Research at Caves Branch Rockshelter has helped demonstrate that the ritual importance of the site lasted over a millennium. Previous interpretations focused on defining a specialized function of the site as one part of a diverse local ritual program. The present study analyzes the range of material culture using AMS and stratigraphy, showing that much of the variation is temporal. In particular, the extensive mortuary use of the site changed over time, becoming more restrictive between the Protoclassic and Late Classic periods. These data support a model of increasing cultural and economic complexity in the region.

Wrobel, Gabriel [102] see Hardy, Jessica L.; **[102]** see Guerra, Rafael A.

Wyatt, Andrew

[302] *Agricultural Practices at the Chan Site: Farming and Political Economy in an Ancient Maya Community*

The Chan site has one of the highest concentrations of agricultural terraces in the Maya Lowlands and is located only a short distance from some of the largest sites in the Belize River Valley. Consequently, Chan was likely a major agricultural producer for the area. However, we know little of the cultivation techniques, crops, or chronology of this agricultural technology. This paper will discuss excavations on terraces and associated households dating from the Late Preclassic to the Terminal Classic, providing a more detailed understanding of the farming population at Chan and how they articulated with the political economy operation in this region.

Wyatt, Andrew [302] see Docster, Elise M.

Wygal, Brian (University of Nevada, Reno)

[275] *Following the Ice? Early Holocene Adaptations in Southcentral Alaska*

Early Holocene toolkits in southcentral Alaska share common attributes with terminal Pleistocene assemblages from the Interior. At a special task site, near Trapper Creek, a toolkit presents commonalities with the ambiguously defined Amphitheater Mountain complex and has similarities with Dry Creek component II and the animal processing site Carlo Creek. In this paper, I address the question "how do special activity sites relate to the widespread Denali complex following the latest ice-age?" To move away from over simplified views of early Alaskan artifact typology and consider lesser known artifact types, non-diagnostic forms and task specific sub-assemblages would benefit lithic analyses.

Wyllie, Cherra (University of Hartford)

[23] *Classic Veracruz Royal Women*

Classic Veracruz painting and sculpture contain numerous images of elite women engaged in statecraft and cosmological ritual. Narrative art from Higueras, Cerro de las Mesas, Zapotal, and Maltrata offers compelling examples of women's prominence in conjoined arenas of politics and religion. Veracruz royal women personify the First Mother. Central to her mythological realm are creation stories metaphorically linked to cycles of conception, birth, growth, death, decay and renewal. Her identity is ancient and a harbinger of things to come; her feline presence entrenched in the regional memory of the Gulf Olmec, just as she prefigures the pantheon of Postclassic goddesses.

Wynne-Jones, Stephanie (British Institute in Eastern Africa)

[76] *Lines of Desire: Power, Consumption and Materiality along a Tanzanian caravan route*

The caravan routes that connected the East African interior to the coast are well-known

from the nineteenth century, when trade along them was intense and increasingly formalised. It is understood that this brought important changes in the structure of society, in people-object relations and in the opportunities for the exercise of power; we also assume that this situation differed from pre-colonial periods, yet very little archaeological work has examined that assumption. This paper presents the preliminary results of archaeology along the central caravan route, with a view to examining the relationship between power and materiality in pre-colonial trading societies.

[76] Chair

Xia, Jingfeng (Rutgers University)

[183] *Open Access for Archaeological Literature: A Manager's Perspective*

Open Access as new scholarly communication has provided free, unrestricted access to digital material. With content of peer-reviewed articles, open digital repositories will facilitate online dissemination of research data and discoveries. In archaeology, several online databases have been available for journal articles, such as AnthroSource. However, these databases are accessible through subscription and are limited to certain journals. Scholars need a repository containing archaeological literature and free of charge. Modern technologies and changed copyright rules by publishers have made the implementation of the repository possible. This presentation discusses how a repository can be effectively managed to support archaeological research.

Xia, Yunju [243] see Peacock, Evan

Xie, Chengzhi [256] see Cui, Yingqiu; [223] see Zhou, Hui

Xiutecuhtli, Nezahualcoyotl [171] see Faul seit, Ronald K.

Yacubic, Matthew (University of California Riverside) and Nick Hearth (University of California Riverside)

[213] *Warfare Debitage: An Experimental Model for Mesoamerican Battlefields*

Colonial-period codices describe and illustrate the weapons used by several Mesoamerican chiefdoms and states. Despite wide-spread historical documentation, there has been little evidence of battlefield sites in Mesoamerica due to low archaeological visibility. To better define expected lithic assemblages at ancient battlefields and to aid in their discovery, use experiments were conducted with replicated macahuitl—a sword-like weapon used by several central Mexican groups. The macahuitl were struck repeatedly against imitations of human appendages made of ballistics gel and pine dowels. By analyzing the lithic debitage created experimentally, an ancient Mesoamerican battlefield lithic assemblage model is hypothesized.

Yaeger, Jason (Univ. of Wisconsin - Madison) [233] Discussant

Yaeger, Jason [181] see LeCount, Lisa J.

Yalman, Nurcan [276] see Boz, Basak; [276] see Bogaard, Amy M.

Yamamoto, Naoto (Nagoya University)

[188] *On the Monumental Wooden Circles of Jomon*

Final Jomon wood circles (ca. 950-800 BC), which consist of 6, 8 or 10 poles arranged in a circular configuration of 6 to 8 meters in diameter, have been excavated in the Noto peninsula, Central Japan. These poles are made of large chestnut (*Castanea renata*) logs which were split in half, and their cut surfaces are always oriented outward. A pair of these poles seems to form a gate-like structure. Questions regarding the function and reconstruction of these features, including the question of whether they were buildings or ceremonial circles, have yet to be answered. New interpretations are presented.

Yang, Dongya (Simon Fraser University), Aubrey Cannon (McMaster University) and Camilla Speller (Simon Fraser University)

[256] *Strategies for Incorporating Ancient Faunal DNA into Archaeological Investigations*

Drawing on several case studies, we highlight the unique contributions that ancient faunal DNA analysis can make to archaeological investigations. Ancient DNA analysis is capable of providing accurate species identifications and revealing population changes over time, significantly enhancing our ability to ask new questions and revisit existing ones. We propose sampling strategies to cope with the high cost and destructive nature of DNA analysis; advocate the use of blind-test design to safeguard authenticity of ancient DNA results; and emphasize the importance of active collaboration between archaeologists and ancient DNA researchers from the beginning to the end of projects.

[223] *Chair* [256] *Chair*

Yang, Dongya [230] see *Cannon, Aubrey*; [256] see *Speller, Camilla F.*; [256] see *Arndt, Ursula M*

Yang, Qinxia [168] see *Taylor, James W.*

Yang, Yue [223] see *Collins, Matthew J.*

Yankowski, Andrea

[106] *Premodern Salt Production in Thailand: Some preliminary research and thoughts*

A number of prehistoric salt "mounds" have been identified in the Khorat Plateau, Central Thailand, dating to as early as the late 1st millennium B.C. These mounds are often strewn with coarse pottery sherds, indicating a long history of salt production using pottery in the region. Additionally, families in this region continue to make salt using traditional methods. Using archaeological, historical and ethnoarchaeological research, this paper presents some preliminary research, data and thoughts on salt production and trade in the early economy of Thailand and the broader Southeast Asian region.

Yarborough, Linda (USDA Forest Service)

[194] *Prehistoric Human Adaptations during Neoglacial Environmental Changes in Prince William Sound*

The archaeological record of Prince William Sound, based on excavated data recovered from only a handful of the hundreds of sites in the area, nevertheless encompasses about 5000 years of Late Holocene prehistory, including Neoglacial advances and retreats. Data associated with the first neoglacial advance are minimal, but changes in human use of faunal resources, and related technology, appear to correlate with glacial advances at about 1400, and about 800-700, B.P. This overview summarizes evidence for neoglacial climatic instability, and human adaptations as seen in technological and faunal remains from sites occupied between about 2500 and 500 B.P.

Yasuoka, Hirokazu [270] see *Ichikawa, Mitsuo*

Yates, Martin G. [231] see *Sanger, David*

Yeatts, Michael [132] see *Swidler, Nina*

Yellen, John E. [149] see *Brooks, Alison S.*

Yellowhorn, Eldon (Simon Fraser University) [18] *Discussant* [1] *Discussant*

Yener, Aslihan

[96] *The Domestication of Metals in Bronze Age Alalakh*

This paper reviews the role of metallurgy in Syro-Anatolia and presents the results of new analyses from the site of Alalakh. A traditional view of Anatolia in general and the Amuq Valley settlements in particular is the notion that they are situated within regions with rich and varied resources. However, what is even more crucial is that they have nurtured bodies of exotic knowledge such as sophisticated production practices in bronze and iron

metallurgy. Put into the context of emergent or indeed collapsing state institutions at Alalakh during the Late Bronze Age, a very particular kind of knowledge was closely guarded—that of technological know-how. That is, the specialized skill not only to make high status items, but to organize strategic production and trade of artifacts that concentrated privilege to certain sectors of the population. Thus, seemingly utilitarian in appearance, in time, tools and weapons began to confer wealth and social connectivity when metal became a preferred material of trade. These artifacts were the products of skilled personnel who guarded their production practices as much as is in industry today. It can be argued that the specialists who crafted these difficult to make items, those who utilized technological knowledge as a valuable tool, passed it on to family and close affiliates. These craft specialists often were themselves coveted targets of marauding states on the prowl for resources. The proximity of the copper, arsenic, iron and gold-bearing veins in the Amanus Mountains as well as the position of the Amuq astride routes to the deposits of the Taurus Mountains appeared from an early date to have made an important contribution to the regional economy. This pattern is a resilient one since it appears that there is at least one other extraction/production cycle later on involving iron.

Yeomans, Lisa [276] see Farid, Shahina

Yerka, Stephen (Archaeological Research Lab)

[254] *Analysis of Geophysical, Geographical, Geoarchaeological and Limited Excavation Data at a Middle Woodland Hilltop Enclosure, Old Stone Fort State Archaeological Park, Manchester, Tennessee*

Since August 2006, a multidisciplinary study has been underway at Old Stone Fort State Archaeological Park, a Middle Woodland period enclosure, located in Middle Tennessee. This project is using near-surface geophysical investigations, geographic information systems, geoarchaeological analysis, and limited excavation to locate archaeological deposits, examine mound structure, model topography, and provide data that can be compared to other Middle Woodland enclosures throughout the Eastern Woodlands. In light of recent discoveries at several Middle Woodland mound complexes, these investigations are important for understanding the organization and interaction of Middle Woodland people throughout the Southeast.

Yeshurun, Reuven (Department of Archaeology University of Haifa)

[69] *The Role of Small Carnivores in the Natufian Economy: A View from Mount Carmel, Israel*

The Natufian culture of the Levant represents a relatively sedentary, terminal Pleistocene hunter-gatherers culture. Excavations of some Natufian hamlets yield rich faunal assemblages in which a significant rise in small carnivore frequencies is noted (mainly red fox, *Vulpes vulpes*). We examine the small carnivore remains from the Natufian site of el-Wad Terrace, Mount Carmel, in order to discern their depositional history and exploitation. Some hypotheses concerning the role of small carnivores, such as consumption, exploitation as a source of fur and fox commensalism will be presented. We aim to provide new information on Natufian small animal capture and exploitation strategies.

Yesner, David

[194] *Archaeofaunal Indicators of Holocene Environment/Subsistence Change in the Gulf of Alaska Region*

Recent zooarchaeological studies demonstrate linkages between Holocene subsistence in the Gulf of Alaska region and changes in thermohaline circulation and oceanic productivity. These include initiation of sea mammal hunting during the early Holocene, an increase in offshore (especially cod) fishing and ice-edge sea mammal hunting during the Neoglacial, a florescence of seal and porpoise hunting as well as cod and halibut fishing during the Roman Warm period, abandonment of some areas during the Dark Ages Cold period, intensification of salmon and ice-obligatory seal utilization during the Little Ice Age, and a number of post-LIA warming effects currently under study.

Yesner, David [256] see Enk, Jacob M.; **[275]** see Crossen, Kristine J.

Yoder, Cassady (Radford University) and Eric Bartelink (Department of Anthropology, California State University)

[7] *A Bioarchaeological Examination of Health and Diet in Mainland and Coastal California.* In this paper, we examine temporal and regional variation in health and diet among six sites in the mainland and coastal regions of central California (circa 2450-200 BP). The study sample includes three sites from the Tomales and Drake's Bay area of the coast, and three inland sites from the interior. The relationship between diet and health is explored using stable carbon and nitrogen isotope analysis and the prevalence of tibial lesions, porotic hyperostosis, and dental disease. Preliminary data indicate geographic differences in diet and dental health between the central coast and the mainland interior.

Yoder, Cassady [202] see *Bartelink, Eric J.*

Yoder, David [46] see *Janetski, Joel C.*

Yoder, Tom (SWCA) and Trent Reeder (SWCA Environmental Consultants)

[222] *Early Pueblo I Period Pit Structure Architecture: Identifying Diversity in Ridges Basin Using GIS Applications*

Early Pueblo I period pit structures excavated during the Animas La Plata Archaeological Project display a level of diversity among their architectural elements that may be understood at various levels of interpretation. Using GIS spatial analysis to help quantify patterns and relationships of architectural traits, a representation of ethnic diversity or group identities within the Ridges Basin population emerges. Similarity and difference between pit structures may function as both integrative and discriminating devices that were used to maintain a functioning community in Ridges Basin among ethnically distinct groups.

Yohe, Robert (Cal State Univ) and Matthew De Carlo (California State University, Bakersfield)

[278] *The Owl Cave Archaeological Collections: A Synopsis of the Nature and Condition of the Existing Archaeological and Vertebrate Faunal Materials*

In July of 2007, archaeologists from the Center for Archaeological Research (CAR) visited the Idaho Museum of Natural History at Idaho State University, Pocatello, with the intent of evaluating the condition of the original collections from the 1965 through 1978 archaeological investigations at Owl Cave. This paper will summarize the current status of the collection and its continuing research value based on this cursory assessment. Furthermore, we will explore the potential for new research opportunities related to this extremely important collection from one of Idaho's premiere terminal Pleistocene sites.

[278] *Chair*

Yohe II, Robert [278] see *DeCarlo, Matthew M.*

Yoneda, Minoru

[116] *Marine resource use in Early/Mid Holocene Japan*

Japan has one of the longest archaeological records for fisher-hunter-gatherers in the world. Marine resource use features prominently in this record. This paper discusses the evidence for coastal maritime adaptations in the Japanese archipelago, including stable isotope data on human remains from the Jomon period.

Yonekura, Kaoru (Tokyo Metropolitan University)

[313] *Influence of the properties of Paleolithic materials on the formation mechanism of use-wear traces*

In order to understand the actual use of Paleolithic tools, restoration experiments and the observation of use-wear traces are essential procedures. However, there are numerous parameters that control the formation of the traces, such as worked materials, working period, manner of operations, and material properties of tools themselves. Therefore, in order to substantially comprehend the formation mechanism of use-wear traces, it is necessary to understand the effect of each factor. In this presentation, the material

properties of stone tools were focused on as one of the influential factors, and how the diversity of materials affects the trace production was examined.

York, Andrew L. [80] see Cleland, James

York, Gigi

[5] *Use of the Sling and Slingstones in Oceania and the Americas*

Slings and slingstones, seemingly forgotten, were extensively employed in war and hunting throughout prehistoric and historic times in the Americas and Oceania. Early European accounts report that in skilled hands, slings were both highly accurate and deadly - centrifugal force carrying missiles out to distances of 400 meters. Slings and slingstones varied in design and materials. Historical depictions show slings being worn as headbands or belts, with stones in pouches. Slings were constructed of perishable materials, with few surviving from the prehistoric period. One of those rare few is a sling from Lovelock Cave, Nevada, that dates to c. 3,200 BP.

York, Laura (University of New Mexico)

[213] *A Quantitative Analysis of Maya Research Since 1950*

Just as the study of the past has bearing on present conditions, the history of Maya research provides the foundation from which modern archaeologists embark. This history influences the contemporary theoretical and practical understanding of the ancient Maya, which is constituted from ongoing research and publication. A quantitative analysis of research topics and methods employed by Maya scholars over a span of more than 50 years, based on a sample composed of publications concerning the ancient Maya in journals such as American Antiquity and Latin American Antiquity, identifies possible patterns and changes in the history of Maya archaeology through time.

Young, D. Craig [128] see Duke, Daron G.

Young, JoAnne and Liz Francisco (Mesa Verde National Park)

[2] *Square Tower House (5MV00650): Its Documentation Evolution*

Among its many cultural resources, Mesa Verde National Park manages several large, mostly intact Pueblo III alcove sites for the general public to enjoy and researchers to investigate. Among them is Square Tower House, a multi-story masonry structure featuring a 4-story square tower, partially intact kiva roofs, and a lookout perched high in the cliffs. In late 2006, a large alcove spall caused severe damage to the site. Prior to conducting emergency stabilization work at the site, archival research in June 2007 revealed management priorities, technological influences and theoretical changes guiding cultural resource management practices through time.

Young, Patricia (Department of Anthropology - Graduate Studies), Camille Sanford (Department of Anthropology, University of Alaska - Anchorage), Glen MacKay (Prince of Wales Northern Heritage Center, Yellowknife) and Norman Alexander Easton (Arts and Sciences, Yukon College, Whitehorse)

[260] *Cross-Cultural Collaboration and the Emergence of an Athapaskan Anthropology in the New Millennium*

During the late twentieth century anthropologists have been diligently working in close collaboration with members and governments of native communities throughout the subarctic. This work has cultivated an emerging generation of Athapaskan scholars who are themselves Athapaskan. This fact promises to fundamentally alter the social process of research in the north, as well as the analytical perspectives brought to bear on anthropological and archaeological data. In this paper we (two male white professional anthropological archaeologists and two female Dineh student anthropological archaeologists) discuss our experience in this history and explore its implications for the future.

Young, Patricia Bernice [275] see Easton, Norman A.

Young, Penny M. (Ontario Ministry of Transportation) and Joseph Muller (City of Hamilton)

[107] Archaeological Management Planning at the School of Restoration Arts at Willowbank and the City of Hamilton

This presentation outlines and compares two case studies in the development of archaeological management planning in Ontario. The first focuses on an estate property now the home of 'The School of Restoration Arts at Willowbank', a school dedicated to the teaching of arts and skills related to restoration of built heritage and a National Historic site. The second oversees a large municipality's role in managing its archaeological resources. These plans address the protection of site sensitivities and explore broader implications of public participation in archaeology.

Young, Tatiana (Temple University)

[144] *Defining the site boundaries in Northern Lowlands*

How to delimit and establish boundaries between the sites of ancient Maya? How can archaeologists define site boundaries, and evaluate a reality of potential boundaries in archaeological records? This paper examines theoretical models about settlement patterns in order to define the spatial limits, characterize, and possibly evaluate settlement boundaries. Moreover, this presentation compares the strengths and weaknesses of models using the current data from various sites in Quintana Roo and examples from other settlements of Northern Lowlands.

Yu, Haiguang [24] see Cunnar, Geoffrey E.

Yu, Pei-Lin (California State University at Sacramento) [151] *Discussant* [199]

Discussant

Yu, Xiyun [106] see Ren, Xinyu

Zaragoza, Diana (INAH)

[150] *It's really the Huastec a cultural continuity through time?*

During many years, the Huastec has been considered as a region where people called teenek, speakers of a mayan language, developed a magnificent culture through time. The archaeological knowledge, until a few years, was sustained in linguistic studies, which located the Mayan language in early times; this fact has created many confusions. Under the glance of the recent investigations, we can assure that this was not true and in agreement with our hypotheses, these groups arrived to the region at a quite recent time.

Zaro, Gregory (University of Maine)

[289] *Integrating Human and Non-human Processes to Understand Long-term Socio-ecological Change along the Peruvian South Coast*

The Peruvian south coast between the Tambo and Ilo rivers is today a bleak and desiccated environment. Vegetation is absent across much of the terrain, and agriculture is restricted to only a few surviving farmsteads. Yet, abandoned canals, terraces, and centuries-old olive groves indicate that the region was once a viable and productive location for such activities. Recent research provides unique insight into the long-term process of environmental change, and the historical depth afforded by archaeological investigation suggests that contemporary socio-ecological dynamics in the area are merely the culmination of integrated human and non-human processes over the past millennium.

Zarrillo, Sonia (University of Calgary)

[24] *Shedding Light on Starch Analyses of Charred Pottery Residues via Experimental Cooking Investigations*

Utilitarian cooking pots have received modest attention from archaeologists. Recently, starch granules have been recovered from the interior charred cooking residues of pottery. This technique has the potential to greatly expand our knowledge of past human-plant interactions. However, as most starches are destroyed below the boiling point of water, food processing and cooking techniques as well as the physicochemical properties of different starches are all potential factors involved in starch survival, biasing the number

and types of starches recovered. This paper will present starch analysis results of experimental cooking residues to advance the interpretation and quantification of archaeological analyses.

Zavala, Bridget and Antonio Reyes Valdez (INAH- Durango)

[185] *Perishable Meanings: Tepehuan Ethnography and the Archaeological Record in Durango, Mexico*

In this paper we turn to recent ethnographic investigations among the Southern Tepehuan of Durango to question local archaeological interpretations. We present modern day contexts that show how mundane objects and built spaces can take on significance far beyond the functional or obvious and compare these to archaeological contexts. Furthermore, we discuss how objects cross cultural lines and are embedded in a complex process of identity negotiation that tests the bounded categories of archaeological traditions.

Zborover, Danny (University Village)

[300] *Public Historical Archaeology among the Chontal of Oaxaca*

The past of the Chontal people of Oaxaca is one of the most obscure chapters in Mesoamerican history. Early colonial accounts of this indigenous group were short on superlatives, although heavily influencing contemporary views. Recent investigations in the region are now transforming these ethnocentric biases. This presentation will focus on the various public strategies to incorporate the currently available archaeological, documental, and oral information within the Chontal village of Zapotitlan, where the research design is further aiming to incorporate the community as active participants in the postmodern discourse between the past and the present, and the native and the academic.

Zedeno, Maria (University of Arizona), Dale Fenner, Sr. (Blackfeet Tribe), Jesse Ballenger (University of Arizona), Nicholas Laluk (University of Arizona) and William Reitze (University of Arizona)

[10] *Driving Bison on the Two Medicine River, Montana: The Spatial Logic of Kutoyis*

The massive alignment of rock features that characterized Blackfoot bison driving on the Two Medicine River has been long noted by archaeologists but never before mapped. Our survey explored relationships between landforms and rock features. Stretching across 4.5 square miles, Kutoyis' bison driving system defied poor mid-distance visibility and treacherous clay hills, blocking escape routes and least resistance paths while at the same time protecting strategically located campsites and other structures from stampedes. This funnel-shaped drive indicates that Blackfoot hunters exerted tremendous control over the bison herd to drive it across two parallel drainages and into a narrow cliff and chute.

Zedeno, Maria Nieves [10] see Murray, John R.; **[10]** see Laluk, Nicholas C.; **[10]** see Reitze, William Thomas

Zeder, Melinda [315] see Pilaar, Suzanne E.

Zehendner, Maureen [188] see Croes, Dale

Zehrt, Claudia (UCL), Jeffrey Seibert (Trent University), John Phillips (University of Cincinnati) and Matthew Mosher (University of Toronto)

[234] *Life Outside of the Royal Court: Site Core Settlement at Minanha*

Research into 'Maya commoners' and the 'support population' of the monumental epicenters has increased over the last decade. Therefore the focus of excavation at Minanha was moved outside of the epicenter. Through extensive excavations and analysis, we hope to elucidate the chronology and the relationships between the non-elite inhabitants and the royal court. We will also assess the socio-political and economic standing of the residential groups, possible function of their structures and paint a coherent picture of the history of the Minanha community outside of the court by evaluating the overall findings from the site core excavations up to date.

Zeidler, James (Colorado State University)

[200] Art and Agency in Jama-Coaque Ceramics, Coastal Ecuador

This paper examines the "anthropological theory of visual art" proposed by anthropologist Alfred Gell (1998) in which art objects and artifacts are viewed as indexes of social agency. Gell's complex scheme for understanding the art nexus and social agency is then explored with reference to archaeological ceramic artifacts of the Jama-Coaque tradition of coastal Ecuador (250 BCE-CE 1532). These include (a) a particular vessel form found in archaeological contexts in the Jama Valley, and (b) elaborate architectural models from museum collections. Both data sets illustrate the unique role of artifacts as indexes of political agency associated with chiefly mound centers.

Zeidler, James [108] see Wager, Tracy C.

Zeitlin, Judith (University of Massachusetts)**[301] Contesting the Sacred Landscape in Postconquest Oaxaca**

Despite priestly efforts to confine religious practice within church walls, miraculous crosses and apparitions of the Virgin Mary have emerged throughout Mesoamerica since colonial times, often in the same caves, springs and rocky promontories that indigenous populations traditionally invested with supernatural significance and which continued to be sites of "pagan" ritual observance. A program of archaeological and ethnohistorical investigation outlined here examines the dynamic relationship between Catholic and Mesoamerican belief and practice in Oaxaca, focusing on the spatial and symbolic interconnections between the sanctuary and the sacred landscape.

Zender, Marc (Harvard University)**[136] Disconnection, Foreign Insignia, and Political Legitimacy: Revisiting the Dynastic Symbolism of Piedras Negras**

Andrea Stone's (1989) paper on Teotihuacan imagery at Piedras Negras redefined our view of political legitimacy among the Classic Maya. Contending that foreign motifs reflected local political concerns rather than Teotihuacan presence, she focused important attention on the parochial manipulation of foreign symbolism. The argument remains a compelling one, yet recent findings also urge a reappraisal of the precise political significance of foreign insignia. As with Tikal and Copan, the Early Classic dynastic founder of Piedras Negras apparently had foreign connections, suggesting that the Late Classic revival of Teotihuacan symbolism evoked both the city's own "past" and a "foreign country."

Zetina, Sandra [74] see Falcon, Tatiana

Zhang, Hua (Simon Fraser University) and Hong Zhu (Jilin University)**[170] Non-metric Study of Cranial Traits of Ancient Human Remains from North China**

A comparative study of 16 non-metric cranial variations was conducted on 336 individuals unearthed from North China to reconstruct their population affinities. The remains are from various geographic regions in north China, with antiquity range from neolithic to historical times (4500±1600BP), representing three archaeologically distinctive groups. The discrepancy of frequency pattern was observed for different non-metric cranial traits, and this demonstrates positive correlations among geographic locations, historical records and frequency of non-metric traits. The study shows the potential to use the variation patterns to study population migration, population history, and even to trace particular traits for forensic identification.

Zhang, Juzhong (University of Science and Technology of China)**[170] Agriculture, Burial Practice, and Technology at Jiahу, an Early Neolithic Site (9000-7800BP) in Northern China**

The early Neolithic site of Jiahу (9000~7800BP) is located in south Henan, Central China. Excavation of 2,700 square meters revealed 50 house foundations, 400 pits, 400 burials, and numerous faunal and floral remains and other cultural artefacts, including: 1) 9000 years old bone flutes still playable today; 2) the earliest domestic pig in China; 3) dominant rice cultivation in its northern most region; 4) the earliest rice wine fermentation detected from pot shards; 5) possibly the earliest proto-writing as shown by certain designs on artifacts; and 6) male skeletal remains with unexpected high stature (1.70-1.80m).

Zhang, Xiaoling (IVPP, Chinese Academy of Sciences), Chen Shen (Royal Ontario Museum, Canada) and Xing Gao (the Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy)

[75] *A functional study of lithic artifacts from Zhoukoudian Locality 1: new evidence for hominid behavior of the Middle Pleistocene in northern China*

Zhoukoudian Locality 1 is a cave site known for the discovery of Sinanthropus. Associated with the human fossils, there are abundant mammal fossils, charcoal ecofacts, and lithic artifacts. These cultural deposits indicated that this site lasted for a substantial occupational time (c. 500,000 -200,000 BP), and the stone tool assemblages varied over the three different cultural phases. The Last Phase was dated from 300,000 BP to 200,000 BC and yielded small artifacts that became predominant. Less in frequency in the previous phases, the flake tools including points and burins were carefully retouched and became more standardized. Especially some of well-modified awls also appeared in this time as a part of toolkit. These changes in lithic assemblages need some of explanation in terms of functions of these tools. Is this phenomena connected with the climate change? Or how these Zhoukoudian hominids procured resources in preference of animal or plant substances? We selected 85 specimens from the upper Layers 1-3 and Layers 4-5 classified to the Third (Late) Phase for use-wear examination for new interpretative of Peking hominid behaviors during the Late Period of the Early Paleolithic in northern China.

Zhao, Jian-xin [169] see Weisler, Marshall I.

Zhou, Hui, Chengzhi Xie (Jilin University, China), Chunxiang Li (Jilin University, China) and Yuqin Fu (Jilin University, China)

[223] *Ancient DNA Evidence for Population Migrations in Yuan Dynasty China*

To determine the origin of the ancient human buried in Zhenzishan cemetery of Upper Capital site of the Yuan Dynasty in Inner Mongolia, ancient DNA was extracted from 23 ancient individuals in the cemetery. We analyzed both mtDNA HVRI and coding-region polymorphisms. Phylogenetic and multidimensional scaling analyses were performed based on mtDNA data from the ancient population and the extant populations. The results reveal that the ancient individuals from Zhenzishan cemetery belong to Han Chinese and that the maternal lineages of the individuals with Caucasoid physical character are Asian origin.

Zhou, Hui [256] see Cui, Yingqi

Zhu, Hong [170] see Zhang, Hua; [170] see Wei, Dong

Ziegler, Danica [132] see Cunningham, Kevin

Zink, Andrew

[42] *A Dynamic View of Folsom Lithic Technology: Intrasite Analysis of Variation, Flintknapping Skill, and Individual Projectile Point Producers at Barger Gulch Locality B*
The degree of flintknapping skill required for individuals to consistently achieve success in manufacturing Folsom projectile points brings about the prospect that certain individuals within the Folsom culture specialized in the production of projectile points. Barger Gulch Locality B is a prime site for intrasite comparisons with the objective of analyzing assemblage variability due to varying levels of flintknapping skill. By focusing on those artifacts related to the projectile point production sequence and comparing those traits telling of varying levels of skill this paper attempts to elucidate how the Folsom organized their production of projectile points in camp site settings.

Zohar, Irit [115] see Bar-Yosef, Daniella E.

Zore, Christina (Mercyhurst College) and Mary Ann Owoc (Mercyhurst College)

[48] *Social Impressions: Bronze Age Cordage Variability in Southern Britain and its Implications*

The small number of Bronze Age perishable artifacts in southern Britain hints at a complex and locally varied industry of craft production. However, the dearth of examples limits the degree to which knowledge of such fabricative technologies and technical systems can augment the rich social models present for this period. This poster presents results obtained from preliminary ceramic impression analysis of a variety of cord impressed Bronze Age vessels in southern Britain. General trends, and local and regional variation in cordage attributes/manufacture are presented. The demographic and socio-technical implications of the results for this period are considered.

Zori, Davide (UCLA)

[28] *Excavation of the Viking Age Farmstead at Hrísbrú*

Over the past four years the Mosfell Archaeological Project has excavated a Viking Age farmhouse and an associated church at Hrísbrú in southwest Iceland. This paper presents the archaeological results of the past four years, focusing on the plans of the longhouse and church, their layout and organization. Finds in the church cemetery and in the longhouse floor layers shed light on the economic, social, and ritual life on a Viking Age farm. The archaeological evidence from Hrísbrú is placed in a wider context with analogies from medieval textual sources and comparisons with other farmstead excavations in the North Atlantic.

[28] *Co-Organizer [28] Chair*

Zori, Davide [28] see Warmlander, Sebastian

Zovar, Jennifer (Vanderbilt University)

[298] *Late Intermediate Period Mortuary Practices at the Pukara de Khonkho: A Preliminary Analysis*

Recent excavations at the Pukara de Khonkho in Bolivia's Desaguadero Valley may have identified specific cemetery areas within the site's terraced walls. The burial pattern appears distinct from other known Late Intermediate Period mortuary practices in the region, which emphasizes the uniqueness of a site already differentiated by its large size, dense domestic habitation, and lack of true defensive walls. This paper presents the results of the previous season's research, situating the data in a regional context and suggesting possible interpretations that could help explain the Pukara de Khonkho's idiosyncratic character.

Zovar, Joel (University of Illinois-Urbana-Champaign)

[300] *Orthography, Habitus, and Histories: Investigations into an Aymara archaeological museum*

It has been suggested that communities belong to their museums, in as much as museum narratives express a shared sense of heritage and history. At the same time, it is clear that communities invariably exhibit some degree of cultural and social fissuring. Taking these statements at their face value, this paper examines the construction of an archaeological museum renovated to attract tourism to Bolivia's Desaguadero Valley. The author draws attention to the often opposing positions that three factions took concerning the orthography of the community's name and proposes that habitus may foster the compromise of multi-vocal historical narratives.

Zurro Hernandez, Debora (Dept. of Archaeology and Anthropology. IMF-CSIC), Ivan Briz (Dept. Anthropology CADIC-CONICET) and Myrian Alvarez (Dept. Anthropology CADIC-CONICET)

[139] *Ethnoarchaeology and Residue analysis in fisher-hunter-gatherer sites: a holistic methodological design*

The excavation of the fisher-hunter-gatherer site Lanashuaia (Tierra del Fuego, Argentina), allowed us to design an accurate methodology for the analysis of residues. The characteristics of the context (recent chronology, good preservation, vegetable and animal consumed species already known, etc, ...) makes possible to test the methodology in order

to know its viability in other contexts (ethnoarchaeological approach). The residues analyzed (still in progress) come from knapped lithics as well as from archaeological sediments. In this paper, the methodological plan is described.

Zutter, Cynthia

[235] *Archaeobotanical contributions to the 17th and 18th C Inuit economy*

This paper will outline ongoing archaeobotanical research being carried out in Northern Labrador. Samples collected from 17th and 18th century houses and middens have been investigated and the results will be discussed. These initial results contribute to a long term research agenda focused on a thorough reconstruction of plant resource use by Labrador Inuit. Intensive analysis of plant remains from archaeological sites can inform larger questions in Labrador prehistory, such as the impact of the Little Ice Age on Inuit palaeoeconomy and early contact with Europeans.

[166] *Discussant*

Zvelebil, Marek (University of Sheffield)

[270] *Materiality of Information in Mesolithic Europe*

This paper reviews the material signatures of information exchange in temperate and northern Europe. I focus upon symbolic evidence, covering rock carvings, rock paintings, and other human interventions in the landscape, on burials, and on carved, sculpted and decorated artefacts. I go on to consider the kinds of information conveyed by such artefacts, on the patterns of transmission of such information, and on social and historical context within which such exchanged occurred.