SOCIETY FOR AMERICAN ARCHAEOLOGY

Abstracts of the 60th Annual Meeting

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SYMPOSIUM, FORUM, AND WORKSHOP ABSTRACTS

[1] Workshop • GIS in Archaeology
This workshop, offered by the University of Nevada-Reno, will focus on basic principles and practical applications of Geographic Information Systems (GIS) for use in archaeological research and management. Instructor: W. Frederick Limp, director of the Center for Advanced Spatial Technology at the University of Arkansas.

[2] Workshop • Advances in Methods and Techniques for Archaeological Site Discovery
In order to be protected, preserved, and managed effectively, archaeological sites must be identified and their condition and significance evaluated. Advances in methods, techniques, and approaches to site discovery and site evaluations occur regularly. In order to increase the rate at which improvements in these technical areas are applied in the field, this professional training is being offered. This workshop was developed with funds provided through the National Center for Preservation Technology and Training, an interdisciplinary effort of the National Park Service.

The role of geology in Cultural Resource Management (CRM) from the perspectives of both archaeology and geology will be explored. Presentations and discussions involving workshop participants will cover the rationale for incorporating geology, timing and integration of geologic studies in relation to investigative phases, and the balancing of research with fiscal and temporal constraints in CRM investigations. Case studies presented through video and verbal formats will illustrate applications of geologic studies in survey, testing, and mitigation phases of several CRM projects.

In order to be protected, preserved, and managed effectively, archaeological sites must be identified and their condition and significance evaluated. Advances in methods, techniques, and approaches to site discovery and site evaluations occur regularly. In order to increase the rate at which improvements in these technical areas are applied in the field, this professional training is being offered. This workshop was developed with funds provided through the National Center for Preservation Technology and Training, an interdisciplinary effort of the National Park Service.

This day-long workshop will introduce the fundamental concepts of Geographic Information Systems (GIS) technology and overview a number of key applications areas in archaeology. This is accomplished through actual hands-on database development, manipulation, and analysis of real archaeological data sets using a popular and easy-to-learn PC GIS package known as IDRISI. Together with hand-outs, bibliographies, and presentations, the attendee will come away with a thorough grounding and experience in this new and important technology.

This workshop will be offered at the Institute for Rock Magnetism at the University of Minnesota (127 Sheepdor Labs Building, 100 Union Street SE, Minneapolis) for archaeologists interested in applying environmental magnetic techniques in their research. It will include an introduction to rock magnetism, a discussion of the archaeological potential of these techniques, and a laboratory introduction to magnetic equipment and measurements.

[7] Workshop • The Health and Safety of Archaeology or What You Don’t Know Can Hurt You
DANGER!! Although the danger that archaeologists encounter was grossly exaggerated in the Indiana Jones movies, it does exist. Are you aware of potential occupational hazards? How many archaeologists receive training in safety procedures or regulations? Archaeological field and laboratory activities can result in the spread of diseases, exposure to toxic materials, or bodily injury. Some well-established archaeological field practices may be in violation of federal Occupational Safety and Health Administration (OSHA) standards. This workshop overviews how to identify and prevent several health and safety problems in archaeology.

[8] Opening Session
Representatives of Minnesota's archaeological and Native American communities will address the audience after a welcome from SAA President Bruce Smith and a dedicatory drumming, followed by a talk by the University of Nevada's Don D. Fowler in memory of Elden Johnson: "Archaeology in the 21st Century: We're All in the Past Together."
General Session | Archaeological Method and Theory

Symposium | New Perspectives on the Tiwanaku Heartland

This symposium presents recent archaeological research relating to the demographic, political, and economic history of the Tiwanaku region. Although the research focuses on Tiwanaku, the case studies are also applicable to the analysis of the Tiwanaku period, which was a time of great cultural development in the region. The symposium includes several key issues and debates, such as the role of Tiwanaku in the development of the region, the extent of its influence, and the impact on the surrounding area. The symposium provides a platform for researchers to share their findings and engage in discussions on the latest developments in the field.

General Session | Western Asia, Africa, and Mediterranean Archaeology

Symposium | Maya Economic and Political Integration: A Perspective from the Northern Belizean Belt

Considerable debate exists regarding the nature of Maya economic and political society. In the northern Belizean belt, there is a significant amount of economic integration among the various sites. This is especially true with respect to the role of goods and resources in the economy. The symposium examines the evidence for economic integration and the potential impact on Maya society, including the role of trade in the development of the region.

General Session | Eastern North America Archaeology

Symposium | Surplus Labor and Social Power

Surplus labor is defined as labor not directly contributing to household subsistence needs. The symposium examines the relationship between surplus labor and social power, with a focus on the maintenance of social hierarchies. Evidence for surplus labor is found in various regions, which indicates the potential impact on the development of societies. The symposium also considers the implications of surplus labor for the development of social power and the potential for conflict and change.

General Session | Mississippian Archaeology

Symposium | Deciphering Anasazi Violence

Evidence of violence is claimed for human remains recovered from the Anasazi culture, whether warfare, social control, or Anasazi mortuary variability. However, interpretations may be based on decontextualized evidence, a lack of theoretical perspective, and simplistic assumptions about Anasazi culture. Recent archaeological research, however, demonstrates that we have overgeneralized many developmental aspects and chronological sequences. Many of the sociopolitical changes from the Anasazi period to the Hopi period are now better understood through a more nuanced understanding of the past.

Symposium | Shell Ornament Production: A New World Perspective

The production of shell ornaments in the New World has long been considered a distinct cultural development. This symposium focuses on the production of shell ornaments in the Americas, including the role of these objects in social and economic contexts, and the impact of different production techniques. The symposium highlights the diversity of shell ornament production in different regions and cultures, and the potential for further research to explore these issues in more depth.

Symposium | The Classic to Postclassic Transition in Western Mexico

The symposium takes a closer look at the transition period in Western Mexico, where the Postclassic period is characterized by significant changes in cultural and social dynamics. The symposium examines the impact of these changes on the development of the region, including the role of trade and exchange networks, and the potential for further research to explore these issues in more depth.

Symposium | Darwinian Archaeology

This symposium brings together a collection of essays in the hope that solutions to problems encountered in applying the theory can be exchanged.

Symposium | Gender and the Interpretation of Power

This symposium discusses the importance of gender in the interpretation of power in prehistoric societies. The symposium emphasizes the need to consider the role of gender in the development of social structures and the potential for further research to explore these issues in more depth.

Symposium | State Archaeology Weeks

An important aspect of archaeological site preservation is the promotion of public awareness about the significance of archaeological resources. The symposium examines the role of state archaeology weeks in promoting public awareness and the potential for further research to explore these issues in more depth.

Symposium | The Postclassic Revisited: Social Development and Chronology of Central Mexico

The symposium examines the development of social and economic structures in Central Mexico during the Postclassic period, including the role of urban centers and trade networks. The symposium highlights the potential for further research to explore these issues in more depth.

Symposium | Time, Culture, and Art: Small-Scale Societies

Art and symbolic systems are increasingly recognized as important, archaeologically visible elements in the development of social structures. Although many indistinct hypotheses are advanced, the variability of art and symbolism in function and meaning for societies of different types, scales, and the art of small-scale, hunter-gatherer societies. Using archaeological and symbolic case studies, the symposium examines the relationship between art and symbolism in different cultural contexts.
methodological, regarding the constructed chronologies which are the basis for interpreting Postclassic societies. Integrating new data into our basic models creates a more dynamic picture of development and time in the Postclassic Basin of Mexico.

[27] Symposium - New Approaches to Later European Prehistory

The archaeological database from later prehistoric Europe is one of the richest in the world, and many countries have long traditions of active research. New directions in research into later European prehistory are challenging traditional interpretations and opening new avenues for our understanding of processes of cultural change. The papers in this session, ranging chronologically from the Early Iron Age to the late prehistoric Viking period, illustrate some of these exciting new directions in research and suggest future implications of these new approaches.

[28] Symposium - New Approaches to Method and Theory in Lithic Analysis

The papers in this symposium address a diversity of issues in contemporary lithic analysis. Topics range from debitage analysis and refitting to the excavation of flint, obsidian, and other lithic artifacts. The temporal scope ranges from the Pleistocene to the Historic period. The session concludes with an overview of the use of a technology, production and use of obsidian, and the interpretation of the results.


Recent successes in apprehending and prosecuting looters have not been accompanied by a significant change in the techniques used to target these looters. The session concludes with a discussion of the role of cultural property in the commercial market for artifacts, and the resulting trafficking networks. This symposium deals with the scope and intensity of the commercial aspect of looting. Papers on artifact marketing, recent traffic investigations and related topics will show that both prehistoric and historic artifacts are market commodities and that the trafficking network has a large-scale domestic and international component. Enhanced recognition and understanding of the problem should intensify our efforts to combat this commercial threat to preservation.


[31] General Session - European Bronze Age and Later

[32] General Session - South America

[33] General Session - Midwest and Midsouth Archaeology

[34] General Session - Latin America


In 1993, the SAA acknowledged George Gumerman’s many contributions to archaeology with its Distinguished Service Award. The current symposium, ranging from general theory to case studies and from the U.S. Southwest to Micronesia, reflects the depth and variety of Gumerman’s professional career and the broad effect of his work on students and colleagues.

[36] Symposium - Early Paleohunt - Cultural-Ecological Adaptations in the Lake Pleistocene Great Lakes Region and Northeast: Common Strategies or a Diversification of Approaches?

This symposium focuses on the issue of whether the Great Lakes region and the Northeast during the Late Pleistocene times constituted a distinct adaptive zone for Early Paleohunt peoples, resulting in the widespread development of similar subsistence adaptations; distinct paleotemperate strategies and lithic technologies, and land-use patterns. The seven papers will present overviews of the Pleistocene floras in the region as a whole, the record of Early Paleohunt occupation, and evidence for human interaction with mastodons. The papers will also highlight evidence for infrastructural cultural relationships and/or shared cultural-ecological adaptations within the greater Northeast.

[37] General Session - Maya

[38] Forum - Taxonomic and Faunal Summaries: What Should We Be Including in Our Faunal Reports?

Most faunal analysts asking questions of subsistence and paleoecology would agree that taxonomic identifications form the cornerstone of their research. Yet there is little agreement about what constitutes an adequate or appropriate faunal summary. Are simple lists of taxonomic frequencies sufficient? Should data summaries include explicit criteria used to assign specimens to taxonomic categories? What approaches to reporting best advance our science and insure an adequate archive for future researchers? Given the tremendous (and increasing) number of faunal studies generated each year and the range in detail provided, it is time to examine our approaches to documenting faunal identifications. This forum assembles a panel of faunal specialists representing diverse research interests, regions and viewpoints to discuss basic questions of adequacy in faunal data reporting.

[39] Sponsored Symposium - Time, Culture and Art, II: Culture Contact and Change, and Large Scale Societies

Continuing the theme of exploring the social function and meaning of art in societies of different scales and contexts, the changing function and meaning of art was considered, along with the place of art in large-scale societies ranging from Pueblo groups to the Aztecs and Andean states.

[40] Symposium - Re-examining Theoretical and Methodological Approaches to Production and Specialization: Where Do We Go From Here?

While there has been significant progress in refining archaeological interpretations of specialization and its relationship to social and political complexity, much research on these topics still suffers from inadequate attempts to characterize aspects of production in fairly dichotomous, abstract terms. Developing refined explanations of specialization requires more attention to how the diversity of interests, strategies, and power relations that exist within and between various groups of producers and consumers. In this symposium, Old World and New World archaeologists will independently examine recent approaches to production and specialization and their influence on economic research in their respective areas.

[41] Poster Session - Old World Archaeology

[42] Poster Session - Southwest Archaeology

[43] Poster Session - Western North America Archaeology

[44] Sponsored Forum - Public Education and Your Career in Archaeology

The purpose of this forum is to explore strategies for resolving potential conflicts between professional advancement and public education activities. Six speakers representing academic and museum career tracks will discuss specific ways in which they have been able to successfully integrate public education and career advancement or have been able to effect a change in institutional priorities favorable to public education activities. Speakers will address the relationship between traditional and non-traditional roles in education (e.g., teaching, research, exhibit development, peer and administrative review) and public education activity.

[45] General Session - Upper Midwest and Eastern Plains Archaeology

[46] General Session - Northeast Archaeology


Many new analytical tools have potential uses outside of the domains of analysis where applicability is clearest (e.g., GIS’s in land management). Because of archaeologists’ expanding interest in complex problems (e.g., characterizing ecosystems, site formation, socioeconomic contexts, or ideologies), innovative formal methods which clarify complex relationships or contrast different models are on the rise. This symposium explores new ways of using applied tools such as GIS’s, complexity theory, artificial intelligence models, and alternate statistical methods (e.g., Bayesian estimation) to substantive problems outside well-defined paths of analysis.

[48] Invited Forum - Finding Creative Solutions for Restructuring American Archaeology

Recent legislation and serious fiscal austerity are having dramatic effects on the conduct of archaeology in the United States. As Federal and state budgets shrink, archaeologists are being forced to pursue increasingly more creative means of funding, while recent and proposed legislation offer new opportunities for the field. This forum provides a forum for discussion of the new landscape created by these changes and the potential for a far greater voice in the conduct of archaeology. These changing conditions challenge all of us with an interest in the past to develop creative ways to ensure protection and wise use of our cultural heritage. This session provides a forum in which representatives of government, academia, Native American and the private sector can discuss innovative approaches to
redefining the nature of archaeological inquiry in the United States.

[40] Symposium: Northern Chilean Prehistory and the Atacama Desert, A Symposium Honoring Percy Dauelsberg II. This symposium is an attempt to put together and update archaeological data regarding research done in northern Chile in the last decades. Since the time the late Percy Dauelsberg first defined a more in-depth chronological sequence for the area, new approaches are revealing a more complex and diverse prehistory. Special attention will be focused on synchronistic processes dealing with both endogenous and exogenous cultural development, and in connection to the Andean as well as the Amazonian culture Feasting.

[50] Symposium: Feasting in Mesoamerica: Social Practice and Archaeological Signature. The social practice of feasting is seldom invoked as a causal agent in the formation of archaeological deposits. Yet, ethnographic sources from Mesoamerica stress the central role of feasting to social cohesion and competition, and status within and between groups. Here, a diverse array of archaeological data from the Maya region—including fauna, ceramics, epigraphy, and ballcourt facilities—are examined in light of their relevance to food prestations. Ethnographic and historical data from the Mixteca further highlight the all-encompassing social aspects of feasting. The use of food and drink in the forging of political and marriage alliances and the emergence of social inequality is also considered.

[51] Symposium: Archaeology, Geomorphology, and Paleoenvironment: Paleoindian Occupations in the Western Great Lakes. Paleoindian groups in the western Great Lakes occupied glacially formed landscapes and environments that are quite different from those available to later groups. The geomorphic context is created by the local distribution and function of the ice, as well as prediction of site location. Environmental reconstruction provides additional insight to land use during the late Pleistocene and early Holocene. An interdisciplinary approach that incorporates these data provides better analysis of Paleoindian occupations and lifestyles.

[52] General Session: Maya

[53] General Session: South America

[54] General Session: Archaeology and the Public

[55] Symposium: Household Archaeology of Chieftoms: An Example from Northwest Denmark. The emergence of chieftoms is demonstrated by the presence of chiefly activities—feasts, central architecture and space, status items, etc. But chieftoms can exist even though the chief is archaeologically invisible. The Thy Archaeological Project in Denmark has spent four years studying the emergence of chieftoms from the bottom up. The excavations focus on households of the Late Neolithic and Early Bronze Age, the transition period to early chieftoms. The change in settlement pattern, household structures, and social practice is evidence of new technologies, social, political, and concepts of value and status associated with chieftoms. The Thy Project provides evidence of chieftoms through the reconstruction of the ancient household.

[56] Symposium: Craft Specialization in the Protohistoric American Southwest. The papers in this symposium detail an archaeological case study of craft specialization in non-tierarchical societies. They focus on the production, exchange, and use of glassware ceramics made in the northern Rio Grande region of New Mexico from A.D. 1300 to 1700. A variety of techniques, including petrographic analysis, electron microprobe analysis, and measurements of metric and nonmetric attributes are utilized to characterize the scale of production and exchange of this ware. Glassware use is addressed through analyses of the contexts in which early glass vessels are found, and the relative size and frequency of glass bowls at contemporaneous sites.

[57] Symposium: Lithic Raw Material Analyses: Examples from the Old and New Worlds. This session will explore analytical approaches of common interest in the study of lithic raw materials. Emphasis upon technological and social considerations reflect particular prehistoric circumscriptions and general regional orientations. These papers examine lithic procurement, dating over differing temporal and geographical scales, regional lithic survey, and archaeometry. It is suggested that raw material studies can provide an important means of redefining the prehistoric landscape in natural and cultural terms.

[58] Symposium: Ceramic Production in the Ancient Near East: Investigations of Production Contexts, Scale, Organization, and their Implications. Ceramic production at Near Eastern tells is not frequently investigated, especially regarding Historic period assemblages. Such investigations, however, may yield interesting implications for political economy of diachronic changes in context, scale, organization of production are addressed. The symposium will focus on the recent investigations of new examples, particularly derived from New World contexts. A recently proposed discussion of ceramic production appears to have worldwide applicability (Costin 1991). The universality of this model will be assessed from the perspective of the late prehistoric/early historic Near East. Cases from Mesopotamia and the Levant will be added to the evidence, and implications for ceramic production beyond systematic will be discussed.

[59] Symposium: Discontinuity in American Bottom Prehistory. The 1984 publication of the FAI-270 summary, American Bottom archaeology, has been viewed as a significant demonstration for a unilinear evolutionary pathway for Midwestern native cultures. This theoretical emphasis on stability and continuity is framed by a project focus on establishing for regional ancient transitions. A project is underway in this region and there is a growing appreciation of the impacts of this research. A book-length account of a reevaluation of this region is being written and will be published in the near future. The research has sharpened earlier recognition of critical discontinuities in regional cultural history. In this symposium, regional scholars focus on these discontinuities in the archaeological record and discuss possible explanatory factors including regional shifts, population influxes, physiographic change, political transformation, technological innovations, as well as the broader issues of modeling culture change.

[60] Symposium: Situational Adaptation in the Late Pleistocene of Western Europe. This symposium details intraregional variability during the Late Pleistocene of western Europe subsequent to the last glacial maximum including the period of time between 15,000-11,000 B.P. The symposium presupposes that the Late Pleistocene hunter-gatherer adaptation was dynamic in space, time and form and that the detailing of variability on an intraregional scale will lead to a more contextualized understanding of behavioral and cultural adaptation. The individual papers address various aspects of the cultural and behavioral variability of Late Pleistocene hunter-gatherers, drawing upon evidence such as subsistence, settlement patterns, and material culture from subregions within western Europe.

[61] Symposium: Understanding Obsidian Hydration Dating: Recent Methodological and Experimental Advances. The use of obsidian hydration dating as an absolute dating method has greatly increased since the early 1980s. As a result, problems with the precision and application of obsidian hydration dating have become more critical. Archaeologists have invested a tremendous amount of research to identify the factors that affect hydration rim formation and to develop a methodology for applying obsidian hydration dating in broad time periods. This symposium provides the results of recent research in both of these areas. By discussing the issues addressed within this symposium, the archaeological community will be able to apply this important means of dating with greater confidence and precision.

[62] Symposium: Social Boundaries, Technical Choices, and Material Culture Patterning. Papers in this symposium propose methods and scales of analysis for examining the relationship between social boundaries and material culture in the archaeological record. The papers examine patterning in a wide range of media, from ceramics and decorative art to the social use of space. Papers draw from archaeological, ethnographic, and anthropological case studies to explore how regional and cultural styles (expressed in technological styles and technical systems) reflect social boundaries. The fact that technological styles exhibit discontinuous spatial patterning holds great potential for studies of social boundaries. Symposium papers contribute to an examination of the archaeological record, migration, and the social anthropology of technology.

[63] Symposium: Alternative Archaeology: Beyond the Anglo-American Paradigm. The focus of this symposium is on the theoretical and practical aspects of alternative archaeological paradigms. Regions such as Latin America and Eastern Europe have developed strong traditions outside of, and in contrast to, the commonly leading Anglo-American paradigms. However, little attention has been paid to these alternative paradigms due to the nature of linguistic, social, and political factors. This session will analyze what these alternative paradigms have to offer, and how they are related to their own geographical and socioeconomic settings, as well as provide a forum for a much needed dialogue among archaeologists from different regions of the world.

[64] General Session: Maya

[65] Symposium: Formative Cultures of Western Bolivia: A Reappraisal. Recent archaeological research in western Bolivia has revealed vibrant cultures with impressive traditions that were not simply evolutionary steps toward the Tiahuanaco. The diagnostic styles
of these cultures imply strong local traditions and marked ethnic diversity. There is evidence for social, economic, and political interactions over remarkably long distances. This symposium brings together investigators of a series of adjoining altiplano and highland valley cultures to evaluate current information and discuss the theoretical and methodological issues that must be resolved if we are to achieve more meaningful appreciation and understanding of the early florescence of highland Bolivian cultures and politics.

[Symposium ■ New Perspectives in Pueblo Archaeology]

Archaeology in the State of Puebla, Mexico, has provided significant data for both culture-historical reconstructions and the understanding of man to land relationships in highland Mesoamerica. The papers in this symposium will further explore these areas through the discussion of information provided by recent research projects. We focus primarily on two aspects of Puebla prehistory: the role of volcanic activity in the formation of cultural traditions and the organizational aspects of the Late Postclassic kingdoms.

[Symposium ■ Right-of-Way Archaeology: Responsible CRM, or Sell-Out?]

Federal Highway Administration and other agency policies insist archaeological excavations be confined to narrow rights-of-way. Attendant theoretical, methodological, and practical ramifications must be addressed by archaeologists and cultural resource managers prior to conducting or reviewing fieldwork undertaken within this restrictive framework. Is this a wise use of CRM funding? Are the data from ROW corridors within or between projects useful or comparable? Do these projects contribute to anthropological knowledge? What alternatives exist? Perspectives on these and other questions are offered by archaeologists and other cultural resource managers associated with a variety of projects in the Southwest.

[Sponsored Symposium ■ Scientific Approaches in Zooarchaeology]

This symposium reviews and assesses the state of scientific research in zooarchaeology. The case studies presented cover a variety of time periods and locations. Topical coverage includes bone chemistry, bone conservation, marine diets and heavy metal toxicity, seasonal hunting and mortality profiles, butchery practices, faunal ecology, morphometric data from domestic animals, bone alteration of buried bone, and the application of bone roundness and weathering criteria to understanding assemblage formation.

[General Session ■ Oceania]

[General Session ■ Beringia and Paleoindians]

[Symposium ■ The Early Late Woodland and Origins of Agriculture in Northeastern North America]

The symposium addresses, for the first time, an overview of the period during which agriculture was initiated in northeastern North America. The participants examine current perspectives and interpretations of the New England Late Woodland, Hunter's Corner, Owasso, Clemenson's Island, Western Basin and Sandusky, and Prince Point. Several papers detail preliminary results of an interdisciplinary study project that reopens discussion on the Prince Point Complex in Ontario. Cultural history as well as paleoethnobotanical, ceramic, lithic and geomorphological issues are investigated.

[Poster Session ■ Method and Theory in Archaeology]

[Poster Session ■ Latin America Archaeology]

[Sponsored Forum ■ Careers in Archaeology: Planning for Future Opportunities]

Career opportunities in archaeology are vastly different than they were one or two decades ago. Academic, government, and private-sector jobs are in constant flux, which means that yesterday's information may be obsolete tomorrow. These working toward future employment in archaeology need an up-to-date basis for planning a career path. Information contained in these studies focus on qualitative data such as job opportunities, particularly for students and those "retiring" their careers. This session will open with brief statements by the panelists, and then become fully interactive between audience and panelists.

[Workshop ■ I Just Got a Call]

"I just got a call from the Rotary Club or the sixth grade teacher. They want me to tell them all about archaeology. What do I do?" As archaeologists we are often called upon to present our knowledge to audiences with backgrounds and interests different from those of our students and professional colleagues. Activities that involve people in the learning process will capture their attention and provide them with a lesson they will remember. This session will demonstrate two activities, distribute additional examples, and discuss the elements of a successful presentation.

[Symposium ■ Slouching Towards Rome: Social Change in Central Mediterranean Prehistory]

From the Mesolithic at Uzzo Cave, to the Iron Age roots of Rome, Italy's archaeological record offers rich material for social interpretation. This symposium examines a series of key topics, including the economic and social transformations involved in Neolithic society, the nature of power, gender and social institutions in the Copper and Bronze Ages, craft production and long distance trade, and gender roles in the first millennium B.C. As a group, the papers present a coherent representation of some major problems in Italian prehistory, and of several theoretically significant approaches to common themes in the European archaeological record.

[General Session ■ Archaeology in Eastern Asia]

[General Session ■ Southwest: Households and Village Production]

[Symposium ■ Appropriating the Past: The Sociopolitics of Archaeology]

The structure of archaeology as a discipline clearly privileges some aspects of practice over others. This structure mirrors the dynamics of the culture(s) within which archaeology is done, reflecting societal divisions of race, gender, and class. This symposium addresses the intersection of archaeologists and "others": the production and dissemination of knowledge about the past. The papers examine the subject to object relations inherent to anthropological work and the influence of modern conceptions on archaeological theory and practice. The research areas discussed include Egypt, Virginia, Europe, Australia, and Polynesia.

[Sponsored Forum ■ Save the Past for the Future: An Open Forum on the Results of the 1994 Conference]

The Save the Past for the Future conference sponsored by the Society for American Archaeology was held in Breckenridge, Colorado, from September 19-23, 1994. The goal of the conference was to reevaluate the action plan developed five years ago and address new issues in site preservation and protection which have appeared since then. Workgroups developed action plans for three kinds of site protection: site preservation through public education, resource protection through effective law enforcement, and archaeological sites in the context of the integrated ecosystem. This forum presents the results of the conference.

[Symposium ■ Kin, Community, Polity, and Parish: Evaluating Regional Strategies for the Reconstruction of European Social Systems]

A number of ambitious archaeological projects with regional foci have been underway in Europe over the last two decades. Though the locales, time frames, and specific goals vary from project to project, there is a common link in that many seem to reconstruct and analyze the often complex social systems and processes that were regional in extent, and/or can only be understood within a regional context. This symposium offers the directors of these projects and opportunity to assess the efficacy of the strategies that were employed to realize their goals.

[General Session ■ Current Research in Mexico]

[Sponsored Symposium ■ Lithic Resource Procurement Research in the Upper Midwest]

While bound by a common geographic focus, recent lithic resource procurement research in Minnesota, Iowa, and Wisconsin has addressed a diverse range of analytical issues. Nine papers present advances in the study of lithic procurement and survey technology; definition of raw material types; and the role of lithic raw material procurement in economic and subsistence structure. Site-specific studies focus on quartzite, utilization of glacial lag deposits, or lithic procurement within associated habitation sites. The studies range in temporal focus from the Paleoindian to the Woodland Tradition.

[Symposium ■ Social Configurations of the Near Eastern Early Neolithic: Community Identity, Heterarchical Organization, and Ritual]

This symposium attempts to synthesize recent anthropological and archaeological research on the emergence of social complexity of the Near Eastern Early Neolithic. The focus is on the critical aspects of ritual practices, labor organization, and community membership draw on both the results of recent archaeological research as well as anthropological theory. Papers encompass a range of perspectives and utilize innovative analytic approaches to the study of mortuary, settlement pattern,
and architectural data to better understand the processes of economic development, social organization, and ritual behavior.

[85] Symposium on Life History Approaches to the Archaeology of Human Behavior
Life history studies examine the ways in which traces of human behavior are recorded in the archaeological record. As an analytical tool, the life history of an object or assemblage is the fundamental point of reference for documenting persistence and change in the historical development of specific human behaviors. By emphasizing the historical and behavioral nature of the events that create the archaeological record, life history analysis provides both a powerful organizing framework for behavioral inference and, ultimately, an empirical foundation for describing and explaining variability in human behavior itself.

[86] Symposium on Multi-Craft Production in a Domestic Context at the Ancient Ejuta Site
At the ancient Ejuta site, Classic period households were involved in the production of a range of different craft products, including the formation of shell ornaments and the manufacture of ceramic vessels and figurines. While some of the technologies that were employed by Ejuta craftworkers were crosscut materials into their diverse craft products (and the resources from which they were made) were procured, consumed, and distributed through markedly different spheres of socioeconomic interaction. The implications of domestic-scale, multi-craft production for more general models of economic specialization are addressed.

This symposium surveys research of the geologic setting for Paleolithic entry and human settlement of eastern North America. During the past decade, an increased focus on geotechnology has produced sites where late Pleistocene and early Holocene archaeological materials can be found in geotechnical contexts that provide high-resolution contextual data. This symposium sets out to extend the Pleistocene-Holocene boundary and locations for the discovery of Paleolithic sites.

[88] Symposium on Integrative Approaches to Recovery of Mind, Meaning, and Social Identity in Maya Archaeology
The process of excavation, recovery, organization, synthesis, and interpretation of field data in Maya archaeology normally grows out of a focus on a single site or regional settlement system. The papers in this symposium differ from the norm in that they incorporate data and collections from several excavations, namely: Altun Ha, Lanquin, Tikal, Marco Gonzalez and San Pedro, all in Belize. The papers differ also in drawing significantly on method and theory in ethnohistory, history, and social anthropology. The result is a range of new perspectives that bear on method and theory in archaeology.

[89] Symposium on Climate and Culture in the Middle Holocene of Andean South America
The mid-Holocene period (ca. 8000 to 5000 B.P., just before, during, and just after the "climatic optimum") was a time of significant global climate change. Archaeological research in the central Andes has found that it was also a time of dynamic cultural change and interaction. The papers in this symposium address the relationship between climate and culture during the middle Holocene from a variety of perspectives. Both the contribution of archaeological research to climate history and the utility of climate data in archaeological interpretation are addressed in the context of case studies from both coastal and highland settings in the central Andes.

[90] General Session on Latin America Archaeology

[91] Workshop on Educators' Workshop: Teaching Archaeology
Archaeology education is an important part of the archaeological profession. This eight hour workshop is designed for educators and curious archaeologists. It will feature hands-on activities which illustrate process and concepts. Materials and activities are classroom ready:

[91A] Sponsored Forum on NAGPRA and the Disposition of Unaffiliated Human Remains
The issue of unaffiliated and unclaimed human remains and objects will be addressed, including proposed regulations for the disposition of such remains and items developed by the Department of the Interior's NAGPRA Review Committee.

[92] Symposium on The Dynamics of Material Culture and Social Processes: The Interplay Between Theory and Data in Mimbres Archaeology
The one-dimensional view of the prehistoric Mimbres of southwestern New Mexico based on their spectacular painted pottery has been challenged by a more holistic and anthropological approach. This symposium will feature papers on prehistoric Mimbres in a more complex and multilayered cultural context, necessarily deals with the intersection of theory and data as well as the relationship between various categories of Mimbres material culture. The papers in this symposium explore the limits of interplay between theory and data in order to develop a more complete perspective on Mimbres society.

[93] Symposium on Native American Agricultural Strategies of North America
In addition to crops, Native American agricultural technology included methods of preparing, processing, storing, and protecting cereals and other storable crops. The symposium presents papers on ancient agriculture that were very different from those used in contemporary Europe or from today's commercial agriculture. Archaeologists, ethnobotanists and Native Americans present papers documenting the research and development of food crops in North America.

[94] Symposium on Revisiting Cerros: New Strategies for Research at the Late Formative Maya City
Begun in 1991, the Cerros Cooperative Archaeological Development Project (CCADP) was prompted by joint research and tourist development goals laid out by the Principle Investigator and by the government of Belize. While previous research prompted the current archaeological investigation, deterioration of major architecture at Cerros stepped up the current timetable. A search for proper consolidation and tourist development strategies was implemented in Phase I of the project, which encompassed remapping and limited testing in the site core. Results reported in this symposium address both the site's archaeological history and its future within the developing ecotourism industry in Belize.

[95] Symposium on Late Neolithic Transitions in the Southern Levant
Archaeological research of neolithic transition of the last decade allows for re-examination of the appearance of large, complex villages of the pre-Pottery Neolithic B and the relative scarcity of the Late Neolithic sites that replaced them. Work in Israel and Jordan sheds light on the introduction of pottery, the "destandardization" of lithics, and other Neolithic changes that set the scene for the Chalcolithic and Early Bronze Ages.

[96] Symposium on Paleo-Landscape Change in the Indo-Pacific: Current Research
Human societies in the Indo-Pacific, agricultural, pastoral, and more recently, pre-agricultural, have had environmental consequences for thousands of years. On the other hand, landscapes offer constraints and opportunities that can strongly influence human techno-strategies. Moreover, environmental conditions can evolve over time in a parallel relationship with human strategies, or be independently impacted by secular trends of climate or geomorphic change. This symposium presents current research in the Indo-Pacific region addressing issues of Late Pleistocene and Holocene-human-landscape interaction. Geomorphological and paleontological evidence from site-specific and regional contexts is used to address issues of human choices and consequences in relation to the region's diverse landscapes.

[97] Symposium on The Early Upper Paleolithic in Eastern Europe and Russia
The face of Paleolithic archaeology in eastern Europe and Russia has changed dramatically over the last decade. Drawing upon new dating technologies and new site information, archaeologists have turned their attention to the Middle to Upper-Paleolithic transition. In this symposium, participants discuss the Early Upper Paleolithic in the heartland of Eurasia, from the Danube River basin in Hungary to Lake Baikal in Siberia, addressing issues such as the origins and spread of the Aurignacian, chronology, lithic technology, raw material procurement, and human paleoecology.

[98] Symposium on Native Copper and Indigenous People in the Past: Perspectives from Eastern North America
This symposium addresses the role of native copper as an element of archaeological inquiry of the indigenous people of prehistoric eastern North America. Although many have presented in this symposium and the other papers of the symposium, there has been a renewed interest in this topic. The symposium includes reports by two laboratories that have prioritized native copper research as well as papers from scholars examining native copper in the Great Lakes region, the Ohio Valley, New England, eastern Canada, and the Southeast.
[99] Symposium ■ The Moquegua Archaeological Survey: New Research on Settlement and Subsistence in the Middle Osorno River Valley, Peru

At various times in its singular cultural history, the Moquegua valley has been the scene of indigenous agrarian and political development, a crossroads of some of the Formative’s first states, the contended frontier of the Inca, and a foundation of the Inka. Results of the first two seasons of the Moquegua Archaeological Survey, complementing ten years of site-centered investigations, permit a regional perspective on temporal variability in agrarian, domestic, exchange, ceremonial, and mortuary patterns among Formative, Tiwanaku, Wari, Late Intermediate occupations. These data shed new light on the demographies and settlement dynamics of state and chiefdom-level societies in the south central Andes.

[100] Symposium ■ New Perspectives in the Archaeology of the Alutiiq Region, Southwest Alaska

The Alutiiq region in southwest Alaska is historically one of the most geologically active and climatically challenging, yet environmentally rich areas in North America. Archaeological and environmental field research between 1991 and 1994 yielded important new information on prehistoric environments and regional cultural change. The symposium presenters provide a comprehensive understanding of how geomorphological and climate changes affected prehistoric human populations, a model of settlement and subsistence patterns for Prince William Sound and the greater Alaska Peninsula, and a consideration of cultural continuity and change throughout the region.

[101] Symposium ■ Advances on the Periphery: The North Atlantic from the Iron Age to the Middle Ages

In recent years researchers in the North Atlantic, from Norway to Greenland, have brought fresh perspective and detailed analysis to the archaeological and documentary material. This work has greatly increased our understanding of this ‘periphery’ on the edge of Europe from the Iron Age to more modern times. The papers in this symposium will focus on both the development and analyses of specific sites and areas, and the greater context in which such sites can be viewed.

[102] Symposium ■ Archaeology, Architecture, and Artifacts: Critical Approaches to Site Function

Critical archaeology has emerged over the past decade as a distinctive branch of postprocessual archaeology. During the same period, Deerfield, Massachusetts, has been the focus of intensive investigations by archaeologists, historians, and students of material culture. Deerfield is an appropriate locale to develop such a critical archaeological approach because the village has figured over the past century in professional discussions of New England’s Native and European histories. This session reports on how critical archaeology has been practiced in this locale, and how the practice has influenced a more general understanding of critical archaeology.


Resource intensification is often associated with the appearance of sedentism, nucleation, and production complexity. Many researchers have viewed this as the inevitable outcome of cultural evolution. Neo-Darwinian evolutionists reject this assumption as teleological, arguing that variable behavior and environmental, demographic, and socially mediated selective pressure produce a variety of both unique and predictable cultural patterns. Shifts toward and away from resource intensification across transitional intervals in late Pleistocene and Holocene prehistory are examples of this process. This symposium provides a North American focus on variability in hunter-gatherer responses to changing resource configurations and demographics in order to explore evolutionary processes.

[104] Symposium ■ Earthworks, Forts, and Villages: Unraveling the Sacred from the Secular

The archaeological correlates of ceremonial sites versus habitation sites are not always well defined. Especially problematic are prehistoric sites associated with earthworks in the Eastern Woodlands. Interpretations of such sites typically rely on untested assumptions and limited analyses, yet distinguishing ceremonial versus residential function requires thorough analyses of artifact assemblages and site structure. This problem is addressed using a variety of analytical approaches and examples from many cultural traditions. Resolving these issues of site function will lead to a more robust and accurate models of regional cultural dynamics.

[105] Symposium ■ Current Research on Paleoindian Archaeology and Geoaeroarcheology of the Central High Plains and Rocky Mountains

Colorado’s central High Plains and Rocky Mountains have long been a rich source of data for reconstruction of Paleoindian lifeways, from the earliest Clovis and Folsom discoveries at Lindenmeier and Dent in the 1920s and 1930s to more recent work at Lamb Springs and Jones-Miller in the 1970s and early 1980s. That long tradition of Paleoindian research continues today, and, in many ways, is beginning to accelerate, with a variety of on-going and planned interdisciplinary projects by museums and universities. This symposium highlights current interdisciplinary Paleoindian projects in Colorado’s eastern high plains, foothills, and high altitude Rocky Mountains by the Denver Museum of Natural History, and the universities of Arizona, Colorado, Michigan, Northern Colorado, and Wyoming.

[106] Symposium ■ United States Indian Policy and the Conduct of Archaeology on Indian Lands: A Dialogue with the Bureau of Indian Affairs

The Bureau of Indian Affairs is the primary agency for execution of Federal Indian Policy. Its role, however, is widely misunderstood, largely because the regulatory environment on Indian lands differs from that on Federal lands. Consequently, an increasing number of professional archaeologists have recently been charged with the task of regulatory provocation under the Archaeological Resources Protection Act while operating on Indian lands. Bureau archaeologists will address the federal trust relationship with Indian tribes and the special conditions this creates for the conduct of archaeological research on Indian lands. Archaeologists who interact with Indian tribes in any way should find the discussion useful.

[107] General Session ■ Southwest Archaeology

[107A] Public Session ■ Learning from the Past: Getting Involved in Archaeology

So often a writer’s or filmmaker’s interpretation is a person’s first exposure to archaeology, but how much of that is lost in the creative process? This idea and more are explored as part of a public exhibition and special computer demonstrations of software with archaeological themes. The session also examines Native American history of the Twin Cities area.

[108] Symposium ■ Cultural Resources Management: A Reassessment

It has been nearly 30 years since passage of the National Historic Preservation Act. The resulting field of cultural resources management is maturing, experiencing the joys, disappointments, and reassessments that occur as middle age nears. This paper will review the joys and successes, the disappointments and mistakes that have occurred, and how we can resolve the conflict that has plagued the promise made nearly 30 years ago. It will introduce the other papers in the symposium and its goal—to develop resolutions that will be presented for passage by the SAA at the business meeting.

[109] Fryxell Symposium ■ Current Interdisciplinary Research on Early Farming Communities

This collection of papers honors the Fryxell Award, Professor Robert Braidwood. His initiative in interdisciplinary research inspired several generations of scholars in archaeology and other fields. Some of these scholars present current approaches in the Near East and beyond.

[110] Symposium ■ Middle Missouri Subarea Archaeology Since the RBS

Although many architects have written in the River Basin Survey’s tradition, the last millennium’s pastscapes, climates, biomes, and agrarian communities of the Missouri River plains in North Dakota and South Dakota are now advanced through computer-assisted, regional-scale analyses and geoaerarcheological investigations of densely settled archaeological records. New perspectives are afforded on archaeological field conditions, regional chronology, and culture change.

[111] Symposium ■ New Studies of Chacoan Outliers

Archaeologists have long known that the Chacoan society was organized requires research on both sites in Chaco Canyon as well as on so-called Chacoan outliers. While the canyon has been the focus of fully sustained fieldwork for over a century, investigations of outliers have been sporadic. Over the last decade, the list of known outliers has greatly expanded but questions about how these communities were organized has remained the same. Their relationship was to Chaco Canyon remains uncertain. This symposium considers these questions as it presents the results of the most recent outlier research.

[112] Symposium ■ The Western Amazon: New Directions in Research

Western Amazonia, particularly eastern Ecuador and Peru, and southeastern Colombia, is archaeologically one of the least known areas of the Amazon Basin. This is particularly true for the smaller rivers and interfluvies. Presented are papers on Holocene land use and climate variation, resource base of different settlement patterns, and insights into surviving material culture, both prehistoric and ethnohistoric, which can bring to an understanding of both settlement patterns and resource procurement.

[113] Symposium ■ Between Heaven and Earth: Theory of Method in Archaeology
Debates over the past decade have focused on the relationship of theory and method. The new archaeology sought to make archaeology more scientific by using logic-deductive approaches, middle range theory, and quantification. Postprocessual archaeologists assert the unity of theory and method, proposing that method is defined by theory, but serious difficulties exist in moving from abstraction to the ground. All archaeologists must confront the dilemmas and solutions of getting and interpreting data. This symposium asks a variety of practitioners to discuss the articulation and disarticulation of theory and method in contemporary archaeology.

114 Symposium: Archaeological Investigations in the Cerrillos River Valley, Ponce, Puerto Rico

Archaeological investigations in the Cerrillos River valley began in 1978 and continued through 1991. During this period, a number of prehistoric and historic archaeological sites were studied by a variety of firms and institutions, with the results presented in contract reports. This symposium presents the major findings of the Cerrillos River projects, which in aggregate represent the most extensive and comprehensive archaeological investigations conducted in Puerto Rico to date.

116 Symposium: Regional Perspectives on Paleoindian Subsistence and Diet Breadth

Presented is current research about Paleoindian subsistence practices in diverse regions throughout the New World. New data and changes in archaeological thought about Paleoindian diet breadth over the past several years have challenged the "big-game herder" stereotype of Paleoindian adaptations. These papers highlight an investigation of geographic and temporal variation in Paleoindian subsistence. Together they provide a useful forum to compare regional records of this subsistence. Such comparisons yield insight into the large-scale processes of humanization and regional ecological adjustments of terminal Pleistocene hunter-gatherers in the New World.

117 Symposium: The Transition to Agriculture in Prehistoric Europe

Agriculture arrived in Europe between 7,000 and 4,000 B.C. Until recently, this introduction was thought to have been brought about by foreign colonists. Evidence from the fields of linguistics and genetics has been used to support this view of the agricultural colonization of Europe. Some, however, have suggested that this transition was an "inside job," resulting from indigenous local groups adopting Neolithic materials and practices. One of the reasons for convening a symposium on the transition to agriculture at this time is the availability of substantial new information. Key questions will concern the how and why of this transition.

118 General Session: Southwest: Social and Political Organization

119 General Session: Old World Archaeology

120 General Session: Eastern North America Archaeology

121 General Session: Western North America Archaeology

122 Plenary Session: Telling Archaeology: Parks, Museums, Print, and Video

Traditional means for communicating archaeology to the public have been parks and monuments, museums, books, magazines, and educational television. Complementing the SAA's recent initiatives in classroom and nontraditional education, this session brings together leaders and representatives of museums (National Museum of the American Indian, Museo de las Culturas del Norte, American Museum of Natural History), parks (NPS, AMNH, INAH), print media (Archaeology, Illustrated History of Human Kind, The Native Americans), and video ("Archaeology" on TLI, "Rediscovering America" on Discovery Channel). The participants will briefly describe how their current undertakings reflect their institutional goals and philosophies, followed by a general discussion of future trends in "telling archaeology."

123 Symposium: Unit Construction in Archaeology: Measurements of Space, Time, and Material

Units in science package variability in order to investigate or resolve some research problem. Unit construction, an admittedly awkward phrase, refers to the logic that guides construction efforts as well as the resulting structures. Taxonomies, classifications, and typologies define particular structures; they do not address the range of scientific activity involved in the formation and evaluation of units. Participants discuss archaeological units at differing analytic scales, from sediments to settlements. The goals are to consider the logic that drives particular unit constructions, the range of variation incorporated within units, and the evaluation of these packages for problem solving.

124 Symposium: Cultural Logic, Social Agency, and the Political Dynamics of Technology: Beyond the Tangible

The role that social agency and cultural logic make to the shape and longevity of technological systems has been underestimated in archaeological theories of social life and culture change. Though the analysis of different technical choices all technologies are expressions of world views, strategies of social differentiation, and power. By what means can the dynamic yet intangible social dimensions of technology be understood through the study of material culture? Participants in this section explore issues of social agency and 'politics' helpful for undertaking a human-centered study of technology by presenting case studies that cover many different technologies and social settings, past and present.

125 Symposium: The Archaeology of Colonization and Imperialism in Latin America

The papers in this symposium address methodological and theoretical issues inherent in the archaeological study of imperial and colonial societies in Latin America. A comparative perspective is presented through the treatment of the major Precolombian empires (Inka, Aztec), the Spanish empire, and post-colonial societies in the New World. Participants seek an answer to the question of how can archaeology contribute to a better understanding of these societies and of the phenomena of colonialism and imperialism in general. A central theme is the correlation of material culture patterns with function, status, ethnicity, and gender.

126 General Session: Southwest: Culture History and Change

127 Symposium: Northwestern South American Archaeology: Papers in Memory of Dr. Gerardo Reichel-Dolmatoff

Reichel-Dolmatoff died on May 15, 1994. His career stands as an example to all anthropologists in his dedication to fieldwork and prolific publication of results. His major contributions are in the archaeology and ethnography of Northwestern South America, especially in Colombia. He was a pioneer in the research of Colombia cienfios as well as in his investigations of topics such as the origins of agriculture and sedentism, symbolism in archaeology, hallucinogenic rituals and iconography, and paleoarchaeology. This symposium in his honor will review many of the recent advances made in these areas and build on the foundations set by his lifelong work.

128 Symposium: Settlement, Society, and Power in Scandinavia and the British Isles During the First Millennium A.D.

The first millennium A.D. in northern Europe was an era of significant political, social, and economic transformation. Changes in settlement and subsistence systems, social and political organization, gender relations, and the production of materials will be examined, beginning with the background in the pre-Roman Iron Age to the development toward urbanization in the latter Iron Age and Early Middle Ages. These papers will discuss recent fieldwork as well as present syntheses of current research in southern Sweden, Denmark, Scotland, and England, ranging from specific faunal and paleobotanical analyses to spatial analysis and the study of state formation processes.

129 General Session: Mid-Atlantic and Southeast Archaeology

130 Symposium: Northern Yucatan: Prehispanic Maya Community and Social Organization

Recent archaeological investigations in northern Yucatan, Mexico, provide insight into current interpretations of prehispanic Maya community and social organization. A broad perspective on ancient Maya society is attempted with topics ranging from economics, trade, and subsistence to new interpretations of architectural function. Many papers focus on the elusive questions of chronology and ethnicity associated with the Terminal Classic period.

131 Sponsored Symposium: Environment and Subsistence: Integrating Phytooliths into the Archaeological Record

Continuing research in method and theory has expanded the options for utilizing phytolith data in the archaeological record. This symposium illustrates the diverse approaches by which phytoliths are able to contribute to questions of past subsistence strategies and environmental conditions. While phytoliths are the common denominator, themes, isotopes, artifacts, residues, features and coprolites all should provide food for thought in both the phytoolith and archaeological research communities.
[132] Symposium ■ EM, HM, CRM, and Archaeology: Myths, Facts, and Realities Explored
This symposium explores the many facets of change (societal, agency, and general) and how these are requiring that the cultural heritage programs be managed at the landscape scale within an ecosystem framework. There is a need for application of the discipline to contemporary, real world problems. We will discuss the integration of the cultural program into ecosystems; how to place cultural change into ecosystem models; and explore cultural heritage management partnerships, forming among academic, federal, and private enterprise. In addition, we will look at what the future will bring through "reinventing government."

[133] General Session ■ Arctic and West Coast Archaeology

[134] Sponsored Symposium ■ The Earliest Americans National Historic Landmark Theme Study
The Earliest Americans National Historic Landmark Theme Study is a multiyear partnership initiative of the National Park Service and the Society for American Archaeology to identify, evaluate, designate, and protect sites and districts associated with America’s earliest inhabitants. Project personnel are working with federal, state, local, and tribal governments, professional societies, and individual scholars, avocationists, and preservationists to develop a nationwide preservation planning document that will establish the context for the designation of new National Historic Landmarks, the updating of documentation for existing NHL’s, and the nomination of properties of regional, state, and local significance.

[135] General Session ■ Plains Archaeology

[136] General Session ■ Archaeological Method and Theory

ABSTRACTS OF INDIVIDUAL PRESENTATIONS

Aaberg, Stephen A. (Aaberg Cultural Resources Consulting) [116] (see Davis, Leslie B.)

Abel, Timothy J. (Toledo) [71] (see Stothers, David M.)

Abbott, David R. [119] Recognizing the Limitations of a Settlement-Pattern Approach for Building Models of Social Organization
Settlement-pattern analysis is a basic tool for reconstructing prehistoric social organization. However, the approach by itself, without direct measurements of interaction, can overlook primary aspects of human organizational structures, especially nonlocalized kinship networks. Consequently, it predisposes researchers to model past organization inappropriately, as modular and hierarchical. To illustrate this effect, a case study is presented from the Hohokam culture area of southern Arizona. By supplementing settlement data with measurements of interaction using local ceramic «exchange, a social pattern emerges that markedly differs from previous hierarchical models, which were built from settlement data alone.

Adams, Brian (Illinois-Urbana/Champaign) [97] The Middle to Upper Paleolithic Transition in Northeast Hungary and Changing Patterns of Lithic Raw Material Acquisition
The Bölük Mountain region of northeast Hungary offers a unique opportunity to investigate human behavioral changes during the Middle to Upper Paleolithic transition in Europe due to the presence of several Middle, "transitional," and Early Upper Paleolithic sites. Results of recent analyses of lithic raw material acquisition and distribution at these sites are presented.

Adams, Jenny L. (Arizona) [85] Life History as a Framework for the Analysis of Ground Stone
The life history concept creates a framework for recognizing prehistoric and historic behaviors that shape the nature of ground stone assemblages. Archaeologists never work with complete assemblages. Artifacts were taken upon abandonment, scavenged, missed by excavators, or missed by sampling strategies. A tool may have been discarded after it was manufactured, after light use, or after it was redesigned for use in a second activity. Two concepts, contemporary use and sequential use are introduced to identify when in the life cycle a second use occurred.

Adams, R. E. W. (Texas-San Antonio) [13] A Regional Perspective on the Lowland Maya of the Northeast Peten and Northwest Belize
Work in the countryside around the urban centers of Rio Azul, Kinal, and La Milpa has offered new data and insights. Some tentative conclusions are offered. One is the strength of periodicity of both occupation and social interaction by site and region. Another is that the hiatus appears to have been a period of population decline in the region. Theoretical implications are drawn.

Adovasio, J. M. (Mercyhurst); [57] Discussant; [30] (see Hyland, David C.)

Adovasio, J. M. (Mercyhurst), O. Soffer (Illinois), and B. Klima (Czech Academy of Sciences) [16] Paleolithic Fiber Technology: Data From Pavlov I, Czech Republic, Ca. 27,000 B.P.
Extensive past research on Paleolithic technologies has focused on the manufacture and use of stone and— to a lesser extent— bone, antler, and ivory artifacts. Coeval technologies in more perishable media sporadically reported from Paleolithic sites have received much less attention. This paper reports on fiber impressions on clay recovered from the Grozdov site of Pavlov I in the Czech Republic. Together with coeval data from the nearby site of Dolni Vestonice I, the fiber impression data from Pavlov I attest to the use of fine twining to produce flexible fabrics some 27,000 years ago. These remains, representing the oldest examples of weaving known to the world to date, confirm the existence of numerous technologies in the Pleistocene which, because of depositional and post depositional factors, have escaped detection.

Ahler, Stanley A. (Northern Arizona) [70] (see William, Jerry D.)

Ahler, Stanley (Northern Arizona), Craig M. Johnson (BW, Inc.), Herbert Haas (Desert Research Institute-Reno), and Georges Bonani (ETH-Hongg, Switzerland) [110] Reevaluation of Plains Village Radiocarbon Dating in the Middle Missouri Subarea
A C14 data set has emerged over 15 years that alters basic understanding of Middle Missouri chronology. Key is (a) 69 dates from the Knife-Heart region produced by the Southern Methodist
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University lab as part of the Kafke River Indian Villages research program, and (b) 34 dates by the SMU lab and the ETH-Hoezingerberg lab produced under the Smithsonian Institution Reparation Program. Evaluation of sites lacking primary evidence for long-term occupation allows us to assess reliability and validity for most existing dates. A core set of usable dates emerges, yielding a new chronological framework for village components in the southeast.

Aimers, Jim (Tuane) [137] Maya Urban Form in Comparative Perspective

Maya urban form has puzzled investigators because it does not seem to exhibit regularized formal qualities or reflect identifiable organizational principles. Beyond the plaza group, the relationship of buildings in Maya cities appears haphazard and consequently Maya cities are often considered unplanned. A comparison of Maya urban form with that of the urbanism of the gridded Classical city, the “organic” Medieval city, and the “geometric” Asian city, and other non-Western city forms help in characterizing the nature of Maya cities. A cross-cultural perspective can be useful in suggesting the cognitive and practical functions which shaped the Maya city.

Akiis, Nancy J. (Museum of New Mexico) [19]

Prehistoric Violence Along the La Plata River in New Mexico

Recent excavations by the Office of Archaeological Studies of the Museum of New Mexico have recovered three human bone assemblages with characteristics some consider as indicating violence or cannibalism. All are from the fill of pithouses, exhibit large amounts of breakage, and are composed of at least five to 17 individuals including an infant, child, and adults of both sexes. While a checklist approach would categorize all three as the “residue of cannibalism,” one is the result of more natural site processes and a second is questionable at best, raising questions about the utility of a checklist approach.

Alharracín-Jordan, Juan (Universidad Mayor de San Andrés, Institute of Andean Studies) [65]

On Segmentation Dynamics: The Evolution of Settlements in the Tiwanaku Valley, 1000 B.C.–A.D. 1000

Human settlement in the Tiwanaku Valley, between 1000 and 100 B.C., was characterized by great diversity in the ceramic styles, settlement configurations and subsistence strategies. At the turn of the first millennium A.D. a new trend in regional integration began. Sociopolitical transformations of the first four centuries of our era remain poorly understood. Common arguments to explain Late Preclassic and early social developments have been derived mainly from archaeological work in several major centers such as Lurinmarca and Tiwanaku. Regional settlement research in the Tiwanaku Valley provides a unique perspective in understanding the evolution of higher levels of integration.


Various models of social organization have been proposed to explain Tiwanaku’s evolution, but most have derived from Euro-centric theoretical approaches to state formation, emphasizing high centralization, bureaucracy, and the monopoly of force as intrinsic components of the early state. Archaeological research on Tiwanaku settlement patterns, coupled with ethnographic and ethnohistoric work on the traditional principles of Aymara social organization, provide arguments for the segmentary character of its organization. An alternative model of “hierarchically nested hierarchies” is presented to address issues of segmentation, integration, and disintegration in prehispanic Tiwanaku society.

Albert, Rosa Maria (Universidad de Barcelona), Linda Scott Cummins (Palao Research Labs), Josef Maria Pallada, Pilar Garcia-Angel, and Jordi Juan [131]

Phytolith Analyses of Upper Paleolithic to Neolithic Firepits from Two Archaeological Sites in the Northeastern Iberian Peninsula

We present results of phytolith analyses carried out at two archaeological sites: Cova del Parco (Alòs de Balaguer) and Abric del Finacer (Margalef del Montsent), both in northeastern Spain. The samples represent several firepits from Upper Paleolithic, Epipaleolithic, and Neolithic levels. Results address the use of plants as fuel and provide dietary and paleocological information. Phytoliths found in Cova del Parco are mainly siliciclastic, while in Abric del Finacer they are mainly calcium oxalate. These differences are analyzed and a possible interpretation given. The results are finally compared with other archaeobotanical analyses including pollen and charcoal from the same site.

Alcock, Sue (Michigan): [125] Discussant

Alconini, Sonia (Pittsburgh): [11] (see Hastorf, Christine)

Alconini, Sonia (Pittsburgh) and John Janusek (Chicago) [65]

Ceremonial Diversity and the State: The Late Formative to Early IV Periods at Tivankanu and Lukuwadeta

Our understanding of the transformations involved in the emergence of the Tivankanu polity remain enigmatic. This paper sets out to examine recent archaeological patterns dating to A.D. 300–600 at two complex settlements in the southern Titicaca Basin. The data, involving patterns in the site centers and peripheries, indicate that distinct forms of ritual, public, and private, were significant during this period, and that these forms were crucial to the imminent development of sociopolitical complexity in the region.

Aldenderfer, Mark (California-Santa Barbara) [89]

Human Responses to Climatic Deterioration in the Mid-Holocene of the South-Central Andean Highlands

Despite local variations in timing and severity, it appears that climate began to deteriorate in the highlands of the south-central Andes after 7500 B.P., and does not improve substantially until after 5000 B.P. By looking at three areas—the upper Osorno drainage, the upper drainage of the major streams of far northern Chile, and the southwestern Lake Titicaca plain near Juli—and by comparing settlement patterns and diet choice in each of these three regions insofar as they are known, it is possible to identify similarities in strategies used by the foraging groups of these areas in response to this deterioration. These strategies will be reviewed, and the implications these have for subsequent cultural developments in each region will be discussed.

Alexander, Rani T. (Northern Illinois) [73]

Site Structure at Isla Cíviltuk, Campeche, Mexico: Implications for Inferences about Household Organization from the Archaeological Record

Results from the first season of archaeological survey at Isla Cíviltuk, Campeche, Mexico, indicate that at least two major episodes of occupation during the Terminal Classic through the Late Postclassic periods. The occupation episodes are marked not only by differences in construction techniques but also by changes in the spatial configuration of the site. At the turn of the 14th century A.D., a new settlement pattern emerges, with nonresidential structures, and ancillary features. Analysis of these patterns prompts a consideration of how the organization of production, consumption, analysis of reproduction within a provincial context. The archaeological record provides a glimpse into lives of the inhabitants of Isla Cíviltuk, and the implications these have for our understanding of the region.

Allen, Gene (Minnesota) [44]

Setting Institutional Priorities That Foster Public Education

Summarizes programs supported by the University of Minnesota that are designed to foster public outreach activity among university faculty. In addition, information is provided on the national-level outreach initiatives recently undertaken by a consortium of research universities.

Allen, Kathleen M. S. (Pittsburgh) [46]

Seneque: Iroquois Ceramic Variability

Comparison of ceramic assemblages from Seneca Iroquois sites with those from other Iroquoian groups has been hampered by differences in the comparability of ceramic samples obtained from different contexts. Most pottery available for study from Seneca Iroquois sites is derived from burial contexts. In contrast, ceramics from domestic contexts are much more common elsewhere. Pottery from Seneca sites at Factory Hollow is compared to identify patterns of variability. The implications for intertribal comparisons of ceramic material are explored.

Allen, Mark W. [15]

Economic Power, Warfare, and Labor in Simple Chiefdoms: Hillforts in Hawke’s Bay, New Zealand

Analysis of labor investment in Maori fortifications (pa) permits examination of sociopolitical organization in prehistoric Hawke’s Bay. Simple chiefdoms characterized by settlement hierarchy and some degree of centralization developed in this region around 400 to 300 B.P. Populations participated in these formations despite increased labor costs in order to ensure subsistence requirements and protection from raids or warfare. Pa were key components of this process as they secured resources, residences, and stored food. Pa also functioned as sociopolitical centers which contained elite households. Ownership of land and pa are viewed as sources of economic power for Maori leaders.

Allen, Patricia E. (Appalachian State): [72] (see Kimball, Larry R.)

Allen,thurman (Soil Conservation Service): [129] (see Saunders, Joe)
Altenbrook, R. Colby (Alabama) [129] Limestone, Grog, and Shell: An Intemperate View of Pottery Temper in the Tennessee Valley

A partial excavation of the Red Fox Mound (LI15), located on the Tennessee River near Decatur, Alabama, revealed a recrystalline structure with ten sequent building episodes. The question of mound authorship was confounded, however, by the discovery of "index" ceramics from both Woodland and Mississippian stage cultures in each of the ten building layers. A subsurface feature of the mound's northern border revealed a similar admixture of ceramics in a single undisturbed and sealed deposit. This paper discusses these findings and questions traditional assumptions about the use of ceramic temper as an indicator of cultural affiliation in the Tennessee Valley.

Ambrose, Stanley H. (Illinois-Urbana/Champaign): [18] (see Schober, Theresa M.)

Ambrose, W. (University of Auckland): [61] (see Stevenson, Chris)

Amick, Daniel S. (Desert Research Institute, Reno) [116] Folsom Diet Breadth and Land Use Patterns

The organization of Folsom subsistence and technology was structured largely by Bison antiquus hunting. However, close examination of diversity in Folsom faunal evidence and land use patterns indicates regional variation in subsistence and settlement strategies. Non-bison animal species were taken in inverse proportion to body size suggesting some dependence on opportunistic foraging. Contrasts in Folsom land use patterns are related to environmental variation in resource structure and availability. Although Folsom bison hunting represents a specialized subsistence strategy, considerable evidence also shows Folsom groups are responding to regional patterns of resource variation.

Amorosi, Thomas (Hunter) [101] Archaeological Investigations at the Svalbard Site in Northeast Iceland

Archaeological investigations at Svalbard are focused upon eight centuries of life in northeastern Iceland. Although research on site materials is still underway, a rich and varied set of data combining human response to climatic change can be illustrated. Multiple signatures in Svalbard's archetypal and faunal evidence indicate that northeast Iceland experienced a particularly stressful period during the climatic event now described as the Little Ice Age. These "hard times" signatures are consistent with historic Icelandic annals, pointing to how humans at Svalbard attempted to draw upon an increasingly wider range of resources during the 17th to 18th centuries.

Amsden, Ron (California-Berkeley): [131] (see Jahren, Hope)

Anderson, David G. (National Park Service) [134] Research Questions and Issues in the Paleoindian Theme Study

The National Park Service's Paleoindian Theme Study provides the opportunity to pull together a tremendous amount of technical and resource management information, enabling the profession to evaluate where we are and where we are going with Parkland research at the continental level (since the study will involve coordination with colleagues and institutions in Latin America and Canada). The examination of research issues is an essential part of the development of a national-scale historic context useful for the identification of ecologically significant habitats and for the least manipulation of potential landmarks.

Andersohn, Lisa M. (New York State Museum) [46] Ritual History of an Early Woodland Mortuary Site in New York

Current traditions associated with the Vine Valley site in central New York state provide a unique opportunity to explore the role of past events in the historical trajectory of a ritual place. Used for mortuary purposes during the Early Woodland period, this area later was incorporated into historic Seneca Iroquois tradition as a place of discord and death. Skeletal material recovered in 1922 displays important differences among mortuary data showing a variety of burial practices which may be interpreted as representing real or symbolic connections between two or more temporally distinct ritual episodes.

Anderson, Mark L. (Iowa) [83] Lithic Procurement and Reduction at Several Sites in the Lower Iowa River Valley, Louisa County, Iowa

During the 1992-1993 field seasons, several associated sites which relate to lithic procurement and reduction activities were identified in the Lower Iowa River valley. Site 13L4A12 represents a lithic procurement location where Burlington chert was extracted from bedrock exposures. The prehistoric component at 13L4A12 represents an associated lithic reduction location, temporally related to the Early and Middle Woodland periods. These and several other sites in the immediate vicinity contain the potential for additional research within not only the Lower Iowa but also the Upper Mississippi River valleys on various topics, including cultural affiliation, site activities and functions, settlement systems, and cultural history in a regional context.

Anderson, Patricia K. (Chicago) [114] Polity and Comms: The Manifestation of Power in the Periphery

Recent archaeologica1, epigraphic, and iconographic investigations at Yula, a small site near the ancient center of Chichen Itza, suggest that it was important in maintaining the southern boundary of the Chichen Itza polity. The hieroglyphic inscriptions and iconographic themes of Yula appear to demonstrate a strong relationship between the periphery and center. The ideological relationship between kinship, politics, and power are framed within their cosmological context.

Andreffsky, William (Washington State) [133] Raw Material Characteristics and the Shaping of Stone Tool Technology

Archaeological data representing over 100 different sites in western North America are examined to show that lithic raw-material quality, abundance, shape, and size play a major role in hunter-gatherer decisions to make various kinds of stone tools. These characteristics of lithic material occurrence are used to help explain why epidemic technologies such as bipolar tool production are sometimes used, and why formalized technologies such as bifacial production may be selected as a tool production strategy. Stone tool morphological variability and technological variability are shown to be directly related to the geological characteristics of stone tool raw materials.

Andrews, Anthony P. (South Florida) [130] (see Dublin, Bruce H.)

Andrews, George F. (Oregon) [130] The Numenry (Mana) and other Large Quadrangles at Uxmal: Elite Residential Compounds or Civic/Ceremonial Complexes?

The Numenry Quadrangle, and five other large quadrangles at Uxmal, are examined with reference to their possible functions. It has been assumed that large Maya "palaces" served as residences for the elite and that they were the site of civic ceremonial activities. These palaces are examined against a background of data from building forms and organization, room/doorway types, architectural iconography, and presence (or absence) of chultunes. It now appears that many of the large palaces at Uxmal, most of which are parts of large quadrangles, housed civic/ceremonial rather than residential functions. This produced a huge "civic center" surrounded by smaller residential buildings and complexes, creating a true multifunctional urban core area.

Aningoli, Mary Lee (Boston) and Patricia A. McAnany (Boston) [50] Temples and Gods: Achieving Status in the Maya Formative Periods

Paintings on Classic-period Maya polychrome vessels indicate that food played a central role in many social interactions. Analysis of Formative-period ceramics from K'axob, Belize, reveals that the social use of food originated in the Preclassic. Data are presented which indicate significant changes over time in ceramic clay sources, formation techniques, and vessel types. These changes are a response to the expanding role of food productions which enhanced the status and prestige of the hosting group and its leaders.

Anikovitch, Michael (Institute of Material Culture History, St. Petersburg, Russia) [97] (see Bradley, Bruce A.)


During the Classic period (A.D. 1300-1500), Tewa in the Chama district and Keresans in the lower Jemez valley used a variety of field technologies and planting strategies to produce crops in the difficult climate of the northern Rio Grande. Even though these farmers were dependent upon similar methods to harvest and conserve water, Tewas in the higher Rio Arriba and Keresans in the lower Rio Abajo confronted markedly different environmental conditions. Whereas Tewas appear to have been more dependent upon winter moisture to grow crops within a shortened frost-free season, Keresans had a greater reliance on summer precipitation.

Anthony, David (Hartwick) [77] (see Olsen, Sandra L.)

Annonitis, Anthony J. (U.S. Navy) [29] Flanking the Peninsula: Prosecution of Civil War Artifact Traffickers
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The United States Attorney for the Eastern District of Virginia recently prosecuted two major ARPA cases. The first case involved three North Carolina men travelling to the National Civil War Artifact Show in Richmond, Virginia, but it ended up at Colonial National Historical Park where they excavated more than 250 holes, removing over 200 Civil War artifacts. In the other case, artifacts taken from two Civil War shipwrecks were sold in interstate commerce by four Virginia men. This paper will highlight the scope of the Civil War looting and trafficking network using the above cases as examples.

Anyon, Roger (Zuni Heritage and Historic Preservation Office) and Peter T. Noyes (Navajo Nation Historic Preservation Office) (Navajo Nation Historic Preservation Office) [67] Are We Doing Right-of-Way Archaeology the Right Way? Archaeologists frequently bemoan the need for more data to provide interpretive context for materials excavated within the right-of-way. Tribes, agencies, and sponsors, however, see a need for project completion with minimal impact to archaeological resources. If archaeologists truly wish to protect and conserve the archaeological record they should restructure their theoretical views of right-of-way archaeology. A landscape approach would resolve the interpretive context dilemma and meet the tribal, agency, and sponsor’s goal of maximum protection and conservation for the resource.

Anyon, Roger (Zuni Heritage and Historic Preservation Office) and Catherine Cameron (Advisory Council on Historic Preservation) [48] Finding Creative Solutions for Restructuring American Archaeology Recent legislation and serious fiscal austerity are having dramatic effects on the conduct of archaeology in the United States. As federal and state budgets shrink, archaeologists are expected to produce more with less funding. While recent and proposed legislation offers Native American archaeologists a far greater voice in the conduct of archaeology. These changes challenge condition all of us with an interest in the past to develop creative ways to ensure protection and wise treatment of our cultural heritage.

Apero, Peter E. [55] Prevalent But Effective: Stone Tools and Household Production in Early Bronze Age Thy, Denmark.

This paper tackles issues about wealth finance of an elite from the household level. The litchi assemblage from a Danish Early Bronze Age settlement is subjected to microwear analysis in order to provide some contextual assessment of the role of material, actions performed, and tool morphology. It is by assessing these basic relationships of form and function that questions concerning specialization and control of production for exchange can begin to be addressed on a regional level.

Arkush, Brooke (Weber State) [43] Initial Results of Excavations at the Rock Springs Bison Kill Site, Southeastern Idaho

The summer of 1994 marked the first year of excavations at the Rock Springs Bison Kill Site within the Curren National Grange, Southeast Idaho. The site consists of both a Fremont and Shoshone component, and promises to add considerably to our understanding of communal large game hunting in the northern Great Basin. Research topics to be discussed include site structure, seasonality, butchering patterns, and absolute dating of the bone beds.

Arden, Traci (Yale) [114] (see Freidel, David A.)

Armil, Jan (Historic Scotland) [81] Settlement and Society in the Scottish Iron Age

This paper will review research in the Scottish Iron Age over the past twenty years. It will discuss how the strategies employed in the Scottish research programme and by other workers in Britain have contributed to our present understanding of the nature of social development in Scotland, particularly the north and west of the country, from c. 600 B.C. to c. 800 A.D. The limitations of the work carried out to date will be considered and an attempt made to identify the key areas for future research and the ways in which these might be tackled.

Arnold, Bettina [27] The Archaeology of Gender in Iron Age Europe The interpretation of high-status female burials in Britain has been particularly plagued by gender bias, such graves imply that women in these societies achieved positions of social and economic power. Changing burial customs and grave good inventories, as well as documentary evidence from the Mediterranean, indicates that gender relations were affected in significant ways during the early Iron Age. The social changes which accompanied the late Hallstatt/early La Tène transition cannot be understood without reference to gender, as this paper will demonstrate.

Arnold, Jeanne E. (California-Los Angeles) [29] Socioeconomic Contexts of Specialized Shell Working Industries in Southern California

Of the New World shell working industries, the mass production of Olivella shell beads on California’s northern Channel Islands is among the most monoplastic, spatially concentrated, specialized and characterized. This industry is described in several recent publications; this paper highlights aspects of the industry and presents new data on related, similarly-scaled activities. The island Chumash, among the world’s most complex hunter-gatherers, were skilled manufacturers of shell ornaments and fishhooks, Titiki adzes, and beads of Miyika, Hitlite, Tivetla, etc. Contexts of production, implications for social and labor organization, and the chronological sensitivity of a range of shell artifact types are discussed.

Arsenault, Daniel (Céte, Laval) [53] On His Majesty’s Sacred Service: The Male Ritual Stewardship in Moche Society

A significant part of the Moche iconography depicts a wide range of actions related to various ritual contexts. A detailed analysis of this iconography suggests that many rites were performed by different groups of male ritual actors. Though it is often stated that Moche society was hierarchically structured, previous interpretations of these groups have never clearly expressed this social complexity. This paper uses a contextual approach to define a “class” of male ritual actors, that I call the “Stewards,” who served the Moche political and religious elites during the performance of major ritual activities.

Arts, Joe Alan (Iowa) [33] Rodent-Induced Size Sorting of Archaeological Deposits in Southeastern Iowa

Evidence of pocket gopher burrowing is common in many Midwestern soils, particularly in sandy soils formed under prairie vegetation. Archaeologists studying heavily bioturbated sites in California have proposed that pocket gopher burrowing results in significant size sorting in soil. Similar size sorting effects are recognized in archaeological data from the Mississippi River valley of southeastern Iowa. The extent of bioturbation, however, varies with environmental variables including vegetation, parent material, and rates of geological deposition. Data on rates of bioturbation are suggested by depth distributions of intrusive historic materials.

Arvelo, Lillian (Pittsburgh) [127] Patron de Asentamiento y Organización Social Durante el Primer Horizonte Pintado, Nuevas Evidencias del Valle de Quilfor, Venezuela

Investigaciones recientes en el Valle de Quilfor, Venezuela, han arrojado nuevas luces sobre el patron de asentamiento y formas de organización social de los grupos humanos que elaboraron la cultura denominada Toquyana en Venezuela, o Primer Horizonte Pintado en Colombia. En este trabajo presentaremos un análisis de la evidencia existente referente a patrones de asentamiento, tanto en Venezuela como en Colombia sobre los grupos asociados a este horizonte estilístico, y lo contrastaremos con los datos recogidos para el Valle de Quilfor.

Artz, Constance (Mississippi Valley Archaeology Center) [32] Horticultural Systems of Western Wisconsin’s Woodland Period

Extensive paleoethnobotanical analyses from Early through Late Woodland sites in Western Wisconsin are integrated with a series of diet optimization models to document the gradual incorporation of cultivated plants into the economy. The sequence in which plant species are added to the diet may reflect a compromise between optimal nutritional benefits and the need for an abundant and storable food crop. As societal needs change, particularly with increased population, different species are adopted, culminating with corn.

Athanasopoulos, Effie (Nebraska) [12] Landscape Archaeology in the Medieval Mediterranean: Intensive Agriculture and Rural Settlement

Archaeological regional surveys in the Mediterranean have been instrumental in providing a new perspective and a strong empirical base on which interpretation of the prehistoric and the historic rural settlement patterns can be based. These advances have led us away from "traditional" analysis and the traditional correlation among worked materials, charcoal, and the interpretation of these models in the past. In several recent studies, dealing with New and Old World material, dispersed settlement has been associated with intensive agricultural regime. In this paper this issue is examined in the context of the medieval Mediterranean and particularly Greece, using both archaeological data and historical documentation.
firing technologies in Classic period Oxaca; and, for the ceramics, variable spatial distributions. Taken together, these data indicate small scale production and local consumption (though beyond the household), in a multiring context.

Ball, Stephen (Indiana)


The detection and interpretation of individual subsurface features has been the goal of geophysical remote sensing in archaeology. The application of these techniques has focused primarily on large complex sites, especially those with urban planning. Extensive testing of magnetic and resistivity surveys on a variety of sites throughout the American Midwest has produced a body of data relating to appropriate surveying strategies for prehistoric sites in Eastern North America. Questions of sample interval, environmental effects, cross-referencing of survey results and the interpretation of subsurface features will be addressed.

Bamman, Susan (Butler)

[14] Settlement Nucleation in Mohawk Iroquois Prehistory

A Mohawk Iroquois settlement sequence is used to address the role of warfare in settlement nucleation. Mohawks shifted their numerous semipermanent settlements from open hills to a lesser number of isolated and defendable locations. Ceramic variation and diversity analysis, population estimation, and evaluation of site hierarchy for a Mohawk site cluster indicate that nucleation was rapid and drives from the patterns predicted by a traditionally accepted escalating warfare model. Interpretations support the pursuit of broader models that incorporate subsistence stress along with increasing conflict.

Bamforth, Douglas B. (Colorado)

[103] Variable Responses to Late Paleoindian/Early Archaic Environmental Change on the Great Plains

Paleoenvironmental research on the Great Plains indicates that the early Holocene was marked by steady increasing aridity, culminating around 8000 B.P. in the Alfritler climatic interval. Although Paleoindian (pre-8000 B.P.) ways of life on the Plains show considerable depletionary uniformity, the available archaeological data suggest that hunter-gatherer groups in different areas of the Plains responded to the Alfritler in very different ways, resulting in varying Early Archaic adaptations. This paper considers the theoretical implications of this pattern.

Bampton, Matthew (Southern Maine): [14] (see Hamilton, Nathan D.)

Bandy, Matthew S. (California-Berkeley)

[99] The Early Ceramic Periods of Moquegua: A Reappraisal

Settlement survey in the Moquegua Valley has produced new evidence regarding its earliest ceramic periods: Huracane and Trapiche. Huracane habitation sites are small villages regularly spaced along the floodplain margins. Two varieties of Huracane funerary complexes are identified. Trapiche cemeteries, though distinct from habitation sites, are evenly spaced along the valley margins. 'Boot tomb' cemeteries usually occur with Middle Horizon complexes, suggesting that this funerary practice is relatively late. As Trapiche ceramics are generally considered to be introduced in Huracane cemeteries, this phase should be understood as a Huracane subphase characterized by the local importation or imitation of atlatl materials.

[11] (see Haseloff, Christian)

Banker, Sherman (Wisconsin-Madison): [130] (see Kepes, Susan)

Banks, Kimball M. (Bureau of Reclamation): [110] (see Snarrland, J. Signe)

Banks, Larry (Southern Methodist): [9] (see Stanford, Dennis)

Banks, William E. (Kansas) and Anita Montet-White (Kansas)

[16] Spadzista, Loci E and F: Flake and Blade Dorsal Pattern Analysis and Comparison with Other Geometric Assemblages

Spadzista is a Gravettian site located in Krakow, Poland. This analysis focuses on areas of the site (E and F) excavated in 1989 by a joint Jagiellonian/University of Kansas team. Intrasite variability in lithic reduction strategies is evaluated to test the idea that spatially segregated activities were recorded in the site's deposits. Several blade and flake attributes are considered in the analysis. The Spadzista samples then are compared to other assemblages in the hopes of understanding the diversity of Gravettian adaptations in North-Central Europe.
Banning, E. B. (Toronto)

[93] Settlement Shifts and Site Visibility: Where are the Late Neolithic Sites? Not long ago, many researchers viewed the end of PPNB as a regional abandonment. Others accounted for the relative dearth of Late Neolithic sites, especially in the eighth millennium B.P., by depression in population or by the adoption of pastoral nomadism. Evidence that many small farming sites of the Late Neolithic may lie undetected in Wadi Ziğláb and elsewhere suggests that none of these hypotheses is realistic.

Bar- Josef, Ofer (Harvard)

[82] Natufian Hamlets to Early Neolithic Villages: The Emergence of Social Hierarchies Archaeological evidence for site size, house size and proximity, and burials enables us to trace the emergence of social complexity in the Neolithic of the Levant. While Natufian hamlets are small, with adjoining round dwellings, the burials lack evidence for social stratification. Large Early Neolithic villages accommodated entire biologically viable populations. Houses are isolated and mortuary practices indicated differential treatment between adults and juveniles. Population growth, facilitated by a new economy, led to social changes that are also reflected in mobility art. The emergence of villages in the Levantine corridor represents a major socioeconomic change when compared to small contemporary desicover camps.

Barfield, Lawrence (University of Birmingham) and Christopher Cippinale (Cambridge University)

[76] Meaning in the Later Prehistoric Rock Engravings of Mont Begu, Maritime Alps The petroglyphs of Mont Begu, on the high mountain of the French-Italian border, are uncertainly dated and have no local archaeological context. Nevertheless, by noting their distinctive and repetitive iconography, and by relating this to regularities in North Italian archaeology of the early metal age, we can recover the essence of their meaning and their place in social reproduction and gender relations.

Barker, Gary L. (Tennessee Division of Archaeology): [87] (see Broster, John B.)

Barker, Pat (Bureau of Land Management)

[80] Archaeology in the Integrated Resource Management System In the Federal resource management system, archaeology has had a dual role: both resource to be managed and resource to be protected. Historically, the latter role has dominated resource management. However, by its very nature, archaeology approaches understanding behavior by integrating the human and natural environment. Thus, archaeologists are in a unique position to provide integrated resource managers with very long-term insights into human interactions with and modifications to the environment. Fully realizing this potential requires a change in management so that archaeology becomes a fully integrated part of the direct management of the environment.

Baror, Wendell (ICF Kaiser) and Wendy Goodman (Tennessee)

[89] Karst Features and Their Association on Aboriginal Cultures of Northern Guam Previous archaeological and geological explorations at Tangua Beach, Territory of Guam, Marianas Islands were limited to the immediate beach strand. In 1992, the first and second terraces were investigated to determine if cultural resources relating to the prehistoric occupation were present. It was discovered that concentrations of cultural material were present in conjunction with water bearing karst features, suggesting that freshwater availability and aboriginal settlement in this dry, isolated region are intrinsically associated. This paper presents a description of these associated resources, and generally discusses the significance of this relationship to the settlement pattern for northern Guam.

Barrett, Michael (New Mexico)

[82] Differential Specialization and Gulf Coast Obsidian Production: The View From the Tuxlas Mountain Region The continuing controversy over the identification of Mesoleamerican centers as specialized stone tool production loci is examined from a "consumer" zone on the South Gulf Coast. Obsidian artifacts from the Tuxlas region, Venezuela, are examined to see if they bear light on the production intensity and scale of a production-distribution system assumed to be dominated by Teotihuacan during the Middle Classic period. Debitage analyses utilizing sourcing studies, technological attributes, and categories of use wear, are contrasted within the Tuxlas region to assess the differential regional procurement, production, and distribution of imported obsidian. The implications of the Classic obsidian industry are discussed.

Barriareno, A., Mina (Universidad Pontifica La Catolica, Lima)

[99] Dieta o Ritual: Funcion de los Moluscos en una Colonia Tiwanakense, Sito de Orno, Valle de Moquegua, Peru (Diet or Ritual: The Function of Shellfish in a Tiwanakense Colony, Orno Site, Moquegua Valley, Peru)

La presencia de moluscos en comunidades de la elite Tiwanakense en el valle Medio de Moquegua (extremo sur del Peru), nos lleva a cuestionarnos sobre el papel que cumplieron estos dentro del complejo sistema de control estatal y de intercambio con la Costa que tuvo el Estado Tiwanakul en el momento de su maxima expansion. La reducida presencia de moluscos en los contextos excavados en el Complejo Orno, asi como la preferencia por dos especies casi exclusivas (Charonia variabilis y Oliva peruviana) sugieren alternativas que no solo estarian asociadas a problemas alimenticios, sino que tambien podrian ser usados como un mecanismo de poder y/o como un elemento de prestigio.

Barrett, Laurence (Franklin and Marshall): [52] (see Hitchcock, Robert K.)

Barrow, C. Michael (Arizona State) and G. A. Clark (Arizona State)

[22] A Selectionist Model for Information Exchange in Late Prehistoric/Early Holocene Europe Temporal and spatial variation in the incidence of art in the European Upper and Post-Paleolithic can be explained by the intensification and subsequent relaxation of selective pressure affecting the volume of information flow through alliance networks as a response to changing population densities in the various European subregions from the Pleniglacial through the early Holocene. We develop a model of cultural selection for symbolic behavior that incorporates the 'information exchange' theory ofstyle and proceeds from and parallels natural selection in classic neo-Darwinian evolutionary theory.

Baruah, Shal (Illinois)

[17] Raw Material Use in the Later Stone Age at Lukaya Hill, Kenya This paper examines strategies for the procurement and use of quartz, chert, and obsidian lithic raw materials at the early LSA sites of Gvzn 10, 16, 19, 22, 46, and 62 from Lukaya Hill, Kenya, and their implications for hunter-gatherer land and site use during the period.

Bass, Jason (California-Berkeley)

[31] Tracking Long-Distance Exchange to its Origin: Sourcing Flints in Northeastern Bulgaria Stone tools manufactured from high quality Bulgarian flints have been recovered from Enolithic sites throughout the Balkans. Determining the specific sources of these flint artifacts would greatly increase our understanding of regional and long-distance exchange networks in southeastern Europe. Yet almost no progress has been made in this area; in fact, many archaeologists make interpretations based on unfounded guesses about lithic raw material provenience. This paper explores why the necessary sourcing legacy has not yet been done, and then outlines a strategy for the location and geochronological characterization of prehistoric flint quarries in northeastern Bulgaria.

Bauer, Brian S.

[53] Inca Land Tenure in the Usco Region This paper examines possible associations between pre-Hispanic systems of land tenure in the Usco region and the queque system. Special issues which will be addressed include: 1) the relationship between the geographical distribution of patanas and ayllus in the Usco Valley and the course of the queques which they maintained, and 2) the role of hechas as land and water markers for different kin groups. The findings indicate that many of the ayllu locations, and perhaps the nidal form of the queque system, can be linked to concerns of land and water control by the many kin groups in the Usco Valley.

Bayman, James M. (Smithsonian)

[20] Hohokam Shell Ornament Production, Consumption, and Community Organization This study outlines an analysis of shell ornament manufacture, consumption, and discard in a Classic period (ca. A.D. 1000-1300) Hohokam platform mound community. Although the nearest source for marine shell in the Sonoran Desert (Gulf of California) is over 200 km southwest of the Hohokam 'heartland,' raw shell, production debris, and finished ornaments are commonly found on large sites. Widespread evidence of shell ornaments in a variety of contexts (e.g., houses, middens,
burials) indicate that such goods played an essential role in Hohokam society. The relevance of this research to interpretations of Hohokam economy, ceremony, and political organization is considered.

Beard, Tom (Landmark Archaeological/Environmental Services): [14] (see Glasscock, Michael D.)

Beavenor, Sheena K. (Illinois): [59] (see Hajic, Ed)

Beech, Jens Henrik (Thisted Museum):

[55] Excavating Bjerre: Bronze Age Settlement from the Chiefdom of Thy
Archaeological rescue work by the Thisted Museum combined with the Thy Archaeological Project have given new details about land use, settlement patterns and farming areas of the Bronze Age. Due to outstanding preservation we recovered large quantities of bone, amber, and bottoms of house construction posts complete with axe marks. From this, unparalleled in Denmark, we can demonstrate the new exploitation of wetlands for agriculture and cattle raising by isolated farms scattered throughout the Bronze Age landscape.

Beech, Loutia (Thisted Museum) and Deborah Erdman (California-Los Angeles):

[56] Ceramic Communication and Technology: The Shifting Ceramic Industry of Thy
The shift in the ceramic production and use from the Late Neolithic to the Early Bronze Age suggests new control over technology and forms of symbolic communication conveyed in a society. The ceramic assemblage of the Late Neolithic has two extremely similar types, both found in the average household. The Late Neolithic is consistently mediocre, with most vessels poorly fired. In the Early Bronze Age there is a shift to extremely well produced and fired vessels and a complete absence of the decorative forms. There remains, however, a category of vessels of much poorer quality. These changes fit into the larger picture of shift, both functional and ideological, of the ceramic vessels in Early Bronze Age chiefdoms of Denmark.

Beck, Charlotte (Hamilton):

[123] Style, Function, Technology, and Chronological Units
For many years "temporal types" have served as chronological units in relative dating, central to the methods of seriation and typological cross-dating. Archaeological theory suggests that valid historical types require accuracy in style and technological units often include function and technological attributes. Using projectile points from the Great Basin as a test case, I explore the theoretical basis for constructing chronological units based on function and technology as well as style.

Beck, Lane (Florida Museum of Natural History) and April Stewart:

[10] Power From the Dead: Ritual Modification of Human Remains
Moruary art has been the basis for the concept that burial of the dead occurs. However, in many societies past and present, modifications and curation of some portion of the remains of certain individuals is evident. This paper serves as a preliminary review of the ethnohistorical and ethnographic reports of cultural modification of human remains and examines how these practices relate to communal beliefs about death and of the patterning of mortuary practices.

Beck, Margaret E. (Kansas) and Sean Brennan:

[45] The Issue of Mississippian Trade Ware in the Central Plains Tradition Shell Tempered Ceramics in Smoky Hill Sites in Kansas
Trade during the Middle Ceramic period between the Central Plains and Caddoan and Middle Mississippian groups has long been recognized. This paper will examine this issue through analysis of the shell-tempered pottery found in Smoky Hill sites in Kansas. These shell-tempered ceramics have been traditionally assumed to represent trade from Steed-Kisker, a focus of western Missouri Mississippian. This assumption is tested using both design comparison and petrographic analysis. It is a possibility—though a frequently overlooked one—that this pottery is of local manufacture and reveals outside influence, or that this pottery represents trade with a Mississippian group other than Steed-Kisker.

Becker, Marshall (West Chester):

[76] Etruscan Gold Dental Appliances: Changing Female Roles in Etruscan Cities Absorbed by the Roman State
Gold dental appliances recovered from archaeological sites in central Italy provide clear evidence for the primacy of Etruscan "orthodontia" ca. 650 B.C. These devices, serving no restorative function, were used only by Etruscan women. This gender specificity suggests that cosmetic use was the primary intent. This relates with the ancient literature which describes the public presence and the roles of Etruscan women, that were quite distinct from those of the Romans. Temporal and spatial distribution indicates that the use of these gold dental appliances came to an end during the first century A.D., a period when the Roman state had culturally absorbed their near neighbors, reflecting an earlier political annexation into the Roman state.

Beckman, Kristen (Skelly & Loy): [14] (see Duncan, Richard B.)

Beckman, Christopher S. (Dumbarton Oaks):

[21] The El Grillo Complex of Central Jalisco: Teotihuacan Expansion or Episodic Movements from the Northwestern Frontier?
The controversial El Grillo complex of central Jalisco has been the linchpin for attributing a number of intrusive complexes of Teotihuacan culture to the Teotihuacan-centered empire or world system. The architecture, ceramics, and burial complex are reevaluated and found to date instead to the Classic period (A.D. 600–900). The complex is proposed to reflect population movements accompanying the general contraction of the northern Mesoamerican frontier at this time. The implications for the alternative chronology are discussed with particular reference to the collapse of the Teuchitlan Tradition of central Jalisco.

Betcher, William R. (Wisconsin-Madison):

[77] Ethnoarchaeological Approaches to Fish Butchery: A South Asian Perspective
Ethnoarchaeological research on fish butchery, amongst the mid-coastal fishing villages of Pakistan, has focused on two systems of processing: central-place and village-based. In central-place markets, fish are butchered using varying techniques dependent on mode of consumption (fresh vs. dried), species, size, and the consumer's socioeconomic affiliation. Village producer consumption and butchery is on a limited range of species and fish portions that vary slightly throughout the year. These intraspecific variations are important in developable models to explain variations seen across several sites of the Indus Valley Tradition (ca. 2,600–1,700 B.C.).

Blevish, Stephanie J. (Kent State):

[104] Defensive or Sacred? An Early Late Woodland Earthwork in Northeast Ohio
The Greenwood Village is an earthen enclosure on the bluffs overlooking the Cuyahoga River valley. The site was interpreted as a fortified village dating to the Late Prehistoric Whittlesy period, but recent investigations date the site to the fifth through eleventh centuries A.D. and indicate a ceremonial or sacred function for the enclosure, rather than a defensive role. The implications for the earthworks at this site and for research on other Early Late Woodland sites in northeastern Ohio are discussed.

Benalii, Larry and Anthony L. Kissert (both, Navajo Nation Archaeology Department):

[67] Do We Study Cultural Properties or Corridors?
The prehistoric "site" is a fundamental unit of management in historic preservation. The site as a whole is the historic property determined Register eligible, and the entire site is what is considered protected or impacted. The adverse effect of undertakings is a concept applied to these sites. All this is true except for excavations within linear rights-of-way, at which point policy replaces law and the unit of investigation becomes the corridor. The implications of this policy for management, preservation, and science are discussed with examples from an ongoing road project on the Navajo reservation.

Benavides, O. Hugo (CUNY-Graduate School):

[63] The Emergence, Configuration, and Impact of Social Archaeology in Ecuador
Ecuador has a long history of the field of archaeology from republican times to the present. In the last three decades a phenomenon of a more socially conscious archaeology strongly developed in the country. In this paper, I would like to access the significance of the social archaeology in Ecuador. Two of my major concerns will be to understand how the social archaeology relates to the initial developments of the discipline and what are some of its major contributions to this day.

Benco, Nancy L. (George Washington):

[40] A Historical Model of Craft Production from the Medieval Islamic World
For nearly 20 years, two interpretive frameworks have dominated archaeological studies of craft production: 1) descriptive models identifying different "types" of artisan production, and 2) developmental models attributing specific causal factors to the evolution of craft specialization. These studies overlook the significance of craft production in ancient societies; identified a diversity of productive arrangements and their archaeological implications; and examined their socio-political contexts. To move forward, however, archaeologists must refocus on the internal social structures that shaped productive activities and labor arrangements. This paper combines ethnohistorical, ethnographic, and archaeological data to develop a historical model of craft production for the medieval Islamic world.
ABSTRACTS OF THE SAA 60TH ANNUAL MEETING

Bender, Susan E. (Illinois-Urbana/Champaign)

Previously, archaeologists working on the southwestern coast of Alaska identified several cultural components and subsistence economies, including those between marine and terrestrial resources. These fundamental works focused on lithic and organic technology for the identification of these subsistence practices. Recent archaeological survey and testing of the coast of Katmai National Monument provide the opportunity to systematically sample faunal remains from several sites ranging in age from approximately 7000–500 B.C. Work is currently underway on these collections which will allow researchers to further understand the exploitation of faunal resources by the prehistoric inhabitants of coastal Katmai.

Bender, Susan J. (Skidmore)
[14] Public Education and Your Career in Archaeology

Strategies for resolving potential conflict between professional advancement and public education activities

[80] Invoking Professionals in Public Education

Report on results of professional involvement by group from Breckenridge working conference.

Bender, Susan J. and Kerry Nelson (both, Skidmore)

Systematic survey of a bounded region in the upper Hudson Valley has yielded new information on prehistoric settlement systems in the area. Formal and functional analyses of avocational collections from the Hudson undocumended sites suggest the presence of two temporally distinct settlement systems in the region, while debitage analysis of controlled surface collections seem to link this distinction to changing mobility patterns. Finally, the survey results call into relief the issue of poorly recorded Early to Middle Woodland settlements in the upper Hudson valley.

Bendremner, Jeffrey C. M. (Connecticut)
[93] Food Production in Southern New England: Changing Strategies in Pre-Contact and Contact Subsistence Systems

Although maize horticulture is adopted in several areas of New England by about A.D. 1000, its place in the overall subsistence system varied profoundly throughout the region. An examination of archaeological subsistence data, ethnohistoric documentation as well as oral histories, gender roles, and social factors reveals that a number of distinct strategies are present in the region and that these strategies change markedly after European contact. These strategies are described and the causes of geographical and temporal variation are discussed.

[71] (see George, David R.)

Bennett, Joanne L. and Walter E. Krippel (both, Tennessee)
[65] Thermal Alteration of Subsurface Faunal Remains

The presence of heat in archaeological context is commonly attributed to direct exposure to fire. Replicate experiments have been conducted in which faunal remains were exposed to heat in both surface and subsurface contexts. Macroscopic comparisons suggest that bone burnt through exposure to indirect heat is not readily distinguishable from bone burnt by surface fires. Results have implications for the pattern of short-term prehistoric occupations and for how features could have been burned bones that had been buried hundreds, if not thousands, of years earlier.

Berg, CARYN M. (Colorado)
[54] Selling Archaeology: Post-processual Interpretations in Public Archaeology

The post-processual approach in archaeological seeks interpretations that are "deeper than the measurable evidence." That is, post-processualists attempt to reach the thoughts of prehistoric peoples. Most professional archaeologists would agree that it is virtually impossible to objectively determine the "meaning behind the evidence." When speaking to the public, however, many professional archaeologists provide interpretations that seem post-processual in their very nature. Professionally, we recognize the need for objective interpretations, but we also appreciate the necessity of public interest and support. To that end, we present cognitive interpretations to the public in attempt to "sell" our discipline.

Bergman, Christopher A. (3-D Environmental), John F. Deershak, and Ken Duerksen
[51] Analysis of Lithic Technology: Old and New World Perspectives

A reconsideration of prehistoric Old and New World lithic technologies reveals significant differences in tool making strategies. Old World technologies, like those of the European Upper Paleolithic, generally emphasize painting, core preparation and blank production instead of trickling tools.

Berrman, Marc (Pittsburgh)
[65] Formative Period Settlement Hierarchy and Political Economy in La Joya, Oruro

Survey has revealed significant differences in settlements of Formative Period (1000 B.C.–A.D. 400) in La Joya, Department of Oruro, Bolivia. Analysis of surface collections suggests that the sites in the survey area were a center for the production of agricultural tools. This apparent functional differentiation between sites constitutes the first evidence that the site-size differences long noted in Wankarani settlement hierarchies may reflect sociopolitical hierarchy.

[99] Discussant

Bernardini, Wesley (Arizona State)

Constraints on information flow within a community may significantly affect the form of its decision making structure. Using distribution theory and ethnographic data, a model is developed that predicts population thresholds of different changes in a decision making hierarchy should occur in order to preserve community integrity. These predicted thresholds are tested on archaeological data from the Anasazi region of the American Southwest. A correlation between observed and predicted points of reorganization is demonstrated, suggesting that future research into the behaviors of social negotiation (e.g., exchange, conflict, stylistic communication) is best directed to these "hot spots" of social activity.

Betersen, Reidar (University of Tromso)
[101] Arctic Northwest Europe from Iron Age to Middle Ages, from Prehistoric Communities to Peripheries at the Edge of the World

Recent research has changed our picture of the Late Iron Age of the arctic coast of Norway. New perspectives on economic, social and ethnic relations have given a new background for interpreting the great changes of the Middle Ages when the northern coasts were also incorporated into the formative, the Church and the European trade network. The erosion of the Iron Curtain has also changed the situation dramatically. It is now time to compare the early "Europeanization" with the 'russification' further east. This is not only a question of comparing two neighboring geographies, it also involves the confronting of two research regimes.

Beyer-Honca, M. Deidre (Indiana)
[12] Demographic Ratios at Cayouy: From Differential Preservation to Social Discrimination

A degree of preservation of the human skeletal material at Early Neolithic Cayouy varies greatly from one area to another. Although several hundreds of site disturbance have caused much of the material, it is possible to look beyond this factor, to glimpse some details of the ancient human program pursued in the community. This paper focuses on demographic ratios at Cayouy, both inside and outside the skull building. From amid the confusion of a taphonomically altered village and mortuary context, it begins to clarify social distinctions made by survivors as they buried their dead.

Bibb, Lisa K. (Southern Methodist)
[107] The Southwestern Archaelogist: A View From the Southern Portion of the Northern Rio Grande

Now-disturbance pedestrian survey in the Rio del Oso Valley of the Northern Rio Grande has manufacturing episodes. In the New World, the reverse is more often the case. Coro reduction is usually expedient and the greatest effort appears directed toward production of tools like bifacial points and knives. This paper contrasts New and Old World analytical techniques used to study lithic assemblages by focusing on raw material procurement, manufacturing efficiency, intended function, and production practices.

Berndt de Quirós, Federico (University de León) and Anne Pike-Tay (Vassar)
[50] Upper Magdalenian to Azilian Economic Transformations at La Cueva de la Pila, Cantabria, Spain

Recent excavation and analysis of the cave of La Pila in the coastal zone of Cantabria is furnishing a detailed sequence of cultural and economic transformations from the Upper Magdalenian to the Azilian at the site. From a typological point of view the transition, which involves the most characteristic Azilian points and harpoons appearing in clear association with Magdalenian ones during the Magdalenian, from an economic perspective, however, discontinuity is observed in that evidence for the exploitation of marine resources derives exclusively from the Azilian levels, and changes are evident in the pattern of seasonal exploitation of red deer. The technological and faunal evidence from La Pila is considered in light of settlement and subsistence models of the Late Pleistocene/early Holocene of Northern Spain.

Berrett, Marc (Pittsburgh)
[65] Formative Period Settlement Hierarchy and Political Economy in La Joya, Oruro

Survey has revealed significant site-size differences in Wankarani settlements of the Formative Period (1000 B.C.–A.D. 400) in La Joya, Department of Oruro, Bolivia. Analysis of surface collections suggests that the largest site in the survey area was a center for the production of agricultural tools. This apparent functional differentiation between sites constitutes the first evidence that the site-size differences long noted in Wankarani settlement hierarchies may reflect sociopolitical hierarchy.

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Blair, Carl (Minnesota)  
[31] Large-Scale Iron Production In The Past: The On-Going Research Of SMELT  
Since its inception in the 1990, the SMELT project of the University of Minnesota has undertaken a series of full-scale, high-temperature, experimental iron smelting projects. Focusing upon the late European Iron Age, a tremendous body of data relating to iron production have been generated. With the incorporation of the most recent data, from 1994, a critical point has been reached. It is now reasonable to take the experimental results from SMELT and combine them with information gathered from archaeological excavations. Together these two sets of information allow for the creation of meaningful models of early, large-scale production.

Blanton, Dennis B. (William and Mary)  
[87] The Development of Coastal Environments and Paleolitadian Settlement in the Mid-Atlantic  
The abundance of data for late Pleistocene-early Holocene archaeological sites are becoming clearer on the submerged continental shelf and in major embayments of the mid-Atlantic region. Sea level curves, geomorphological studies and palynological results permit reconstruction of the environments in these settings, including identification of areas with the greatest site potential. Recent finds of diagnostic artifacts from sites around Chesapeake Bay are described in this context to demonstrate an improved understanding of early settlement patterns and geochronological potential.

Blick, Jeffrey P.  
[127] Prestige Versus Wealth in the Cerro Guaussa Polity During the Regional Classic Period (A.D. 1-900) in the Valle de la Plata, Colombia  
This research concerns the emergence of social inequality in chiefdoms. The purpose of this investigation is to study the nature and extent of the economic basis of social inequality in chiefdoms in the Valle de la Plata, Colombia. Archaeological evidence in this region indicates that Puebloan chiefdoms of the Regional Classic period (A.D. 1-900) were marked by prestige differentiated settlements identified in funerary mounds and carved statues accompanying the burials of certain individuals (perhaps nobility). An alternative system of social differentiation, based on elite control of the obsidian knowledge of the supernatural realm, is proposed.

Bloom, Deborah E. (Chicago), Dale J. Yeats (Stanford), and Jane E. Bultska (Chicago)  
[32] A Bioanthropological Approach to Tiwanaku-Moquegua Valley Interaction  
Identifying ethnic distinctness through the archaeological record indicates how prehistoric peoples from Tiwanaku, a complex urban center in the high Andes, interacted with the residents of smaller, lower-lying communities in Peru’s Moquegua Valley. While research at the valley’s prehistoric capital, Omo, showed that Tiwanaku colonizers preserved the social hierarchy of their home region, our project found a less stratified society at the valley’s working-class settlement, Chen Chen. We studied variation among artificially deformed Moquegua Valley crania to demonstrate how ethnic distinctions were less pronounced at Chen Chen and thus indicative of its more equalized socioeconomic conditions.

Blum, Jeffrey (Yale)  
[82] Micro-Site Patterning and Demographic Change at Ellitongo, Oaxaca, Mexico  
...
Using data obtained through survey and excavation by the Yale University Eliotongo Project, this paper explores two related phenomena—shifting settlement patterns and demographic change—at the site of Eliotongo, in the Mixtec Alta of Oaxaca. Changing temporal occupations of the site are analyzed on a micro-stratigraphic and macro-stratigraphic level, and compared with the regional pattern for the Oaxacan Valley. A demographic change appears in the Early to Middle Formative transition, and is compared with contemporary sites in Oaxaca. Finally, the paper examines the impact of these two processes on the transformation of the site through time.

Blonsky, Paul J. and David L. Brown (both, Washington-St. Louis) [49] Pragmatic Politics: Allipanico Chilean Connections

Percy Darlingberg. Hinterland in an allipanico: Chilean connections with north Chilean coastal areas. The current paper views the evidence from the perspective of the southern Mixteca basin, and focuses on the contrast between the patterns of linkages that developed for the formative period kingdoms, the expansive Tivianak period federation members, and the late prehistoric Aymara “associations.”

Blumler, Mark A. (SUNY-Binghamton) [100] Ecological Studies of Wild Cereals

Ecological studies of Near Eastern wild cereals shed light on the transition from gathering to farming. The annual growth habit and large seeds of these plants, as well as the extreme seasonal drought to which they are adapted, apparently facilitated early agriculture. The wild cereals are not very tolerant of fire or grazing, and less weedy than sometimes reported. Consequently, coevolutionary agricultural origin hypotheses involving fire, herding, and/or dump-heaps probably do not apply to them.

Boada, Ana Maria [127] A Correspondence Between Social Differentiation and Political Hierarchy in the Valle de Samsa, Boyaca-Colombia

Most of the ethnohistorical and ethnological literature concerning the northern Andes of Colombia has considered the prehistoric inhabitants (“Muiscas”) to be one of the most developed societies of the country. This idea of high complexity comes from the 16th-century Spanish accounts and has been assumed by the investigators. An inconsistency between the ethnohistorical information and the archaeological record was pointed out by Reischel Dolmatoff (1986). The purpose of this paper is to contribute further to the knowledge of the “Muiscas” before A.D. 1500 through the analysis of the social differentiation within a village and its correspondence with the degree of political differentiation within its respective valley.

Bogucki, Peter (Princeton) [117] How Farming Came to Central Europe, 7000-5000 B.P.

Between 7000 and 5000 years ago, agricultural communities were established in central Europe, between the Alps and the Baltic and between the Priep Marshes and the Paris Basin. This process exhibits geographical and temporal variability. In some areas it was the result of the dispersal of farming populations (not truly colonization, for it lacked clear intentionality and complete unidirectionality); elsewhere, it involved the adoption of farming by local foraging peoples. Moreover, while it is possible to speak of a “transition to agriculture” in central Europe, it is also the case that the earliest farming systems differed from the mixed farming economy that characterized later prehistory in central Europe. This geographic and temporal variability will be highlighted with an example from north-central Poland.

Bogucki, Peter (Princeton); [76] Discussant

Boguszewski, Andrzej [63] Is There a Space for Theory Between Leroi-Gourhan and Bordes?

Despite the fact of that so many theoreticians of modern science are prone, archaeology in this country still remains very traditional in its pattern. However, some new methodological concepts are being lately implemented to this “French school of archaeology,” mostly to archaeology of French Laploithic. Although, methodological novelties and changes do not always lead to theoretical or conceptual change, there are some local differences on which I will focus in my presentation.

Bonacci, George (ETH-Zurich); [110] (see Alier, Stanley)

Bonde, Niels (National Museum of Denmark) [101] Dendrochronological Dating of the Viking Age Ship Burials at Oseberg, Gokstad and Tune, Norway

Dendrochronology now provides dating for the three famous Viking Age burials of special importance for chronology and ship-archaeology in Scandinavia and across early medieval northern Europe. The find was excavated in 1867, the Gokstad and the Oseberg in 1898 and 1904 respectively. Today these findings form the nucleus in the Viking Ship Museum in Oslo. Until now their dating has depended on evaluations of the decorated wooden artifacts in the burials. Now the grave goods as well as the ships themselves are exactly and independently dated by tree-rings.

Borrero, Nina (Florida Museum of Natural History) [24] Florida Archaeology Week

Working together, professional and avocational archaeologists coordinated and implemented two-week-long public celebrations of Florida’s past (October, 1991, and February, 1995). Over 200 programs were scheduled, including special exhibits and interpretive programs. Exhibits, book-signings, paper, and booklets were published and distributed using funds provided in part by grants from the Florida Division of Historical Resources. The nuts and bolts of putting on Florida Archaeology Week is continuing to evolve (there are still plenty of nuts), but will always require the collaboration of Florida’s avocational and professional archaeologists.

Borrero, Luis Alberto and Nora Viviana Franco (both, Programa de Estudios Prehistoricos-CONICET); [22] (see Franco, Nora Viviana)

Borrero, Luis Alberto and Nora Viviana Franco (both, Programa de Estudios Prehistoricos-CONICET) [116] Early Patagonian Hunter-Gatherers: Subsistence and Technology

Evidence for human use of southern Patagonia goes back to around 11,000 B.P. Faunal remains from several cave sites suggest that early Patagonian hunter-gatherers were not focusing on Pleistocene megafauna for subsistence. The main target was, to judge from the available records, the guanaco (Lama guanicoe). However, its significance for subsistence is still open, since all the evidence comes from cave sites. As for small mammals birds and plants, their remains are recorded at several sites, but the role of these resources is still controversial. Analysis of the associated artifacts—including properties of the raw material, design, and energy input—suggests that an expedient technology was prevalent. A highly generalized way of life is suggested.


The collapse of a historic wall on an archaeological site during a project in Phoenix, Arizona. The wall had been cross-sectioned per standard excavation techniques. Fire department emergency crews dug out the partially buried person, but the ensuing publicity destroyed archaeological features. Inspection of the project by safety personnel revealed a lack of precautions prescribed by the Occupational Safety and Health Administration and the need for archaeologists to get training in health and safety issues.

Boschhardt, Robert F. (Mississippi Valley Archaeology Center) [83] Newly Identified Lithic Resources in Western Wisconsin

For over a century, Hixton stellite sandstone (orthooquartzite) has been recognized as the premier lithic raw material from western Wisconsin, and has been traced in exchange networks ranging from Palaeolithic to Onoto. Recent investigations have identified numerous orthoquartzite outcrops of varying quality in this region, creating uncertain macroscopic identification of “Hixton.” Analytical techniques such as thin section petrography and Oxygen-18 isotope assay have begun to provide "signatures" of these various orthoquartzites. In conjunction with these investigations, the high quality local "Hixton Chert" has been identified.

Bouquet, Sylviane (CRY-IAH, Mérida); [130] (see Kepes, Susan)

Bousman, C. Brit (Texas-San Antonio); [9] (see Collins, Michael B.)

Bove, Frederick J. (California-Santa Barbara) and Hector Neff (Research Reactor-Missouri) [61] Obsidian Hydration Dating in Pacific Coastal Southern Mesoamerica

The post-Formative chronology of the Guatemalan Pacific coast is being reassessed in light of over 1000 obsidian hydration dates from the Cotzumalguapa and Manantial archaeological zones. Dates are calculated on the basis of the 1112 artifact source assignments determined by neutron activation analysis and soil temperature estimates based on measurements at four different elevations. The large number of dates thus generated permits time to be viewed as continuous rather than segmented. The traditional, segmented chronology for the region implies a post-Formative occupation history marked by incredible population explosions and collapses, whereas obsidian dates from Classic period
contexts indicate more gradual expansions and contractions.

Bowen, Jonathan E. (Ohio Historical Society)

More than 95% of the St. Charles bifaces (ca. 9000 B.P.) from an approximately 125,000 km² tract, which is roughly centered on northern Ohio, are made from Flint Ridge or Upper Mercer chert. The most intense concentration of such specimens (40/100 km²) is in the vicinity of the Great Swamp (Buckeye Lake), 15 km distant from Flint Ridge. Most of the severely heat-damaged specimens have been reported near the margin of the Black Swamp, 200 km to the northwest of the core sites. It is possible that these specimens were placed in cremations.

Bower, Brenda (California-Santa Barbara)

[112] Style vs. Substance: The Ethnoarchaeology of Conamo Polychrome Pottery
This paper presents ethnoarchaeological studies among Quichua and Achuar women in Conamo, a tribal community of semi-sedentary cultivators and fishers in a remote area of the eastern Amazon. Polychrome beer bowls in Conamo represent a long-established, indigenous tradition of pottery manufacture for household use, where style is arguably independent of market influences. Pottery style and distribution networks of raw material (clay and mineral pigments) are analyzed to discern material correlates of social identity, addressing issues of group identity (ethniciy and political alliance) as well as personal identity.

Bower, Candy E. (Toronto)

[71] Paleoenobotany of Two Princess Point Sites in Southern Ontario: Grand Banks (AIGX-3) and Lone Pine (AIGx-113)
Nearly twenty years ago, the earliest cultivation in southern Ontario was linked to the Princess Point Complex, and early Late Woodland dating to between 1300 and 1000 B.C. Despite the significance of this economic transition, very little is known about prehistoric plant utilization during Princess Point times. This paper discusses the results of the first flotation sampling regime carried out on two Princess Point sites: Grand Banks (AIGX-3) and Lone Pine (AIGx-113). The results of this research are evaluated in terms of understanding plant utilization during the late Early Woodland in Ontario, and the development of agriculture in northeastern North America.

Boyd, Carolyn E. (Texas A & M)

[17] Pictographic Evidence of the Peyote Cult in the Lower Pecos, Texas Archaic
Considerable controversy exists regarding the origins of peyotism and the content of the earlier cult from which it emerged. The purpose of this paper is to present evidence of the presence of the peyote cult among the Archaic inhabitants of the Lower Pecos Region 4000 years ago as evidenced in the archaeological record. Lophophora williamsii, the hallucinogenic peyote cactus, is identified in the sediments and in the Pecos River Style pictographs of the Lower Pecos Region of southwest Texas and northern Mexico. A review of the ethnographic and ethnoarchaeological literature provides an explanation for the presence of peyote in the archaeological record.

Boyd, William (Southern Cross University)

[90] Environmental Archaeology of the Coasts of Southeast Asia and Papua New Guinea: Coastal environments during the late Quaternary are noted for their tendency to change, often at moderately rapid rates. Such change may have important consequences for the archaeology of the coastal zone, in terms of the nature of inferred past human occupation, and (ii) the archaeological evidence and thus the archaeological strategies required to elucidate past human occupation. This paper will discuss recent environmental archaeology conducted on the Bangkok Plain of Thailand and the coasts of West New Britain. The implications for human settlement of the interaction of off-shore processes such as soil reposition with on-shore beach processes such as human environmental manipulation will be explored.

Boyter, Ray (California-Los Angeles) and Arie Wallert (Getty Conservation Institute)

Until recently, dye-stuff analysis was typically performed on textiles from museum collections which rarely have known proveniences. For the last two years, we have been analyzing textiles from various excavated sites, all from well-documented contexts. In this paper, we will incorporate the results of analysis published elsewhere with our most recent investigations. We will examine temporal, subregional and regional utilization of dyes and dyeing process by individual cultures. We will focus on the shift in dyeing traditions occurring by the end of the Middle Horizon. We will attempt to relate this shift to contemporaneous changes in political and ideological structure.

Bradley, Bruce A. (Crow Canyon Archaeological Center), Michael Anikovich (Institute of Material Culture History, St. Petersburg, Russia), and Evgenij Giriya (Institute of Material Culture History, St. Petersburg, Russia)

[97] Early Upper Paleolithic in the Central Russian Plain: Streletskaia Flaked Stone Artifacts and Technology
Earliest Upper Paleolithic sites with a developed bifacial technology are known in the Central Russian Plain. Site distribution, dating, technology, and traceological analyses are presented for some of this material. Although bifacially flaked artifacts are not uncommon in Middle Paleolithic sites in the same region, the Streletskaia Cultural assemblages exhibit the earliest bifacial thinning technology. Along with highly developed platform preparation, and well controlled thinning, there is possible evidence of pressure flaking, and in one assemblage, intentional heat treatment. The origins of this technology are obscure as it is its apparent first replacement by more typical Upper Paleolithic blade industries.

Bradley, James W. (Robert S. Peabody Museum, Phillips Academy): [36] (see Sinn, Arthur E.);

[98] Discussant

Bradley, Romma J. (Arizona State)

Shell ornaments exhibit a variety of forms and styles that require different levels and techniques of manufacture. The quantity of production debris varies with the different forms, and not all are equally visible archaeologically. This paper presents a comparison of marine and freshwater shell ornament production at several sites across the Southwest, emphasizing the variability in ornament styles and production techniques as they apply to specific regions.

Brantiff, C., B.: [122] Participant

Bray, Tamara L. (Smithsonian)

[40] Coca Production and Andean Political Economy
The vertical archipelago model has been the unquestioned paradigm for understanding Andean political economy for two decades. The extent to which this model emphasizes direct control over extraction of coca leaves has obscured the significance of other mechanisms of economic integration in the Andes. Coca, one of the defining elements of Andean culture, was a non-local product, yet its presence was indispensable to most forms of social interaction in the highlands where it both symbolized and engendered bonds of reciprocity. Contradictions noted in the relations of production and exchange, and the ideology surrounding coca consumption, offer new insights into Andean political economy and long-term development patterns in prehistory.

Brennan, Sean: [45] (see Beck, Margaret E.)

Breiten, Bartel P. (Grinnell) and Karl J. Reinhard (Nebraska)

[50] Evidence from Coprolite Analysis for the Ingestion of Corn Smut (Ustilago maydis) in the Prehistoric American Southwest.
The fungal plant pathogen, corn smut (Ustilago maydis), can cause considerable damage to maize before harvest, decreasing yields. On the other hand its ethno-botanical use has been as both food and medicine. This paper presents the results of an analysis of 156 coprolites for corn smut from 5 different prehistoric sites (including foraging and horticultural societies) within the greater American Southwest. The analysis provided direct evidence for the ingestion of corn smut by prehistoric horticultural groups. The nutritional/medicinal implications of corn smut and its relationship to maize horticulture in the prehistoric Americas is highlighted.

Brewington, Robbie L. and Dennis James (both, Texas A & M)

[92] Interregional Networks in the Classic Mimbres Period: The Ceramic Evidence
Pottery sherds provide evidence of exchange and contact, though for northern sites, these materials often remain unknown in the American Southwest. To address this issue, neutron activation analyses of Southwestern ceramics are ongoing at Texas A&M University. In 1993, 140 sherds of three ceramic types from seven sites were analyzed for trace elements. The sites are in the Mimbres Valley, Upper Gila, and Jornada areas. Five distinct clusters were formed: two center in the Mimbres Valley, two in the Upper Gila, and one in the Jornada. These results provide information to reconstruct interaction spheres during the Classic Mimbres Period.

Briol, Blandine (EHESS, Paris): [124] (see Roux, Valerie)
Brockington, Donald L. (North Carolina-Chapel Hill) and David M. Perea Herrera (Universidad Mayor de San Simon-Cochabamba) [65] Recent Investigations into the Formative Period in Cochabamba, Bolivia Members of the Cochabambas Formative Period Project returned to Valle Ibiria in the eastern lowlands in 1992, recovering additional evidence and similarities with eastern Peru. C14 dates indicate two major occupations: 1100-900 BC and 600-400 BC. In 1994 salvage excavations at Yuraj Molino in the highlands yielded more ceramics identical to Valle Ibiria materials. Yuraj Molino, with C14 dates of 1600 and 1100 BC, was also found to have been divided into activity areas: ceramic production, copper smelting and working, residence, and a graveyard.

Brooks, Alison (George Washington) [64] Public Education and Political Decisions: View from the Department Chair Provides a chair's perspective on how effective promotion and tenure cases might be built for academic archaeologists who have devoted a considerable portion of their professional activity to public education.

Brooks, Marjorie (Wyoming) and George Frison (Wyoming) [70] Stable Carbon Isotopes in Bone: Lack of Evidence of an Alitheral Drought Stable carbon isotope values from ox bone from the Agate Basin, Carter/Kenn-McGee, Hawken, and Vore sites in Wyoming were evaluated. Preliminary analyses show a significant shift in dietary C3/C4 plant ratios at 9,600 B.P., indicate slight warming. However, this climatic trend is not the expected shift indicative of drought conditions. Further, results from the Hawken site (9,500 B.P.) are not significantly different from those of the Vore site (200 B.P., Little Ice Age). Models describing partial or complete cultural abandonment of the Plains during Alitheral drought conditions must be reexamined.

Brooks, Robert L. (Oklahoma) [54] Public Perception and Archaeology: A Study of Attitudes among Farmers and Ranchers in Western Oklahoma The public has witnessed an increasing concern with the public's perception of archaeology. However, little systematic research has been conducted to examine the attitudes, beliefs, and values of the public. A survey questionnaire was mailed to some 1000 farmers and ranchers in western Oklahoma to examine their attitudes regarding archaeology and preservation of archaeological sites. Results of this survey have provided data on the education of farmers and ranchers, the nature of their interest in archaeology, and their willingness to preserve archaeological sites.

Brase, David S. (Royal Ontario Museum) [134] Paleoeindian Thematic Studies: The Roles of the SAA and the NPS in a Landmark Initiative The professional interest in the early peopling of the New World has long been a focus of both SAA and NPS. The initiative thematic study, now more than a quarter-century out of date, will be rewritten to place old and new national historic landmarks, representing that episode, into a framework encompassing traditional and recent views. The development of this new initiative and the interlocking roles of public and private archaeologists will place Paleoeindian sites firmly in public and private consideration.

Brester, John B., Mark R. Norton, and Gary L. Barker (all, Tennessee Division of Archaeology) [87] Archaeological Investigations of Stratified Clovis Sites in Tennessee Archaeological testing has been conducted on two stratified Clovis sites in Tennessee. These two sites, 40BN190 and 40DV400, have produced the best evidence for intact Paleoeindian sites in the state. The stratigraphy, features, dates, and lithic data analysis are the subject of this paper.

Broughton, Jack M. (Washington) [103] The Vertebrate Fauna of the Emeryville Shellmound: Evidence for Resource Depredation and Intensification in Late Prehistoric Coastal California? A fine-scale stratigraphic analysis of the vertebrate fauna of the Emeryville Shellmound, San Francisco Bay, reveals dramatic changes in taxonomic composition during the late Holocene. In particular, the relative abundances of large species, namely artiodactyls, decrease significantly through time relative to smaller species, such as sea urchins. Such a pattern strongly supports resource intensification models posited for this region. Data bearing on the age structure of the artiodactyl and sea urchin remains allows an evaluation of whether or not the pattern is due to resource depression driven by increasing local human population densities.

ABSTRACTS OF THE SAA 60TH ANNUAL MEETING

Browman, David L. (Washington-St. Louis) [65] Pa-ajaniu Revisited: Formative Tikalca Basin Monolith Cult Fifty years ago Posansky first recognized and defined the formative stone sculpture of the Tikalca basin as the Pa-ajaniu style. In the last few years, a number of new examples of this style have been located, broadening our understanding of the monolith cult represented by the dual representations of this tradition, which includes such derivations as the Asini style defined by Kidder and the Yaua-Mama style defined by the Chavezes. [49] (see Blomky, Paul J.)

Brown, Clifford T. (Tulane) [130] Settlement Patterns and Social Organization at Mayapan, Yucatan, Mexico Mayapan, Yucatan, Mexico, was the political capital of much of northern Yucatan during the Late Postclassic period (A.D. 1250-1542). This paper presents the recent research on settlement patterns and complex social organization at Mayapan. Several problems are reviewed in light of the newly collected data, including the internal organization and topography of households; the size, distribution, frequency, and internal organization of clusters of households; and the relationship between the site settlement pattern and the distribution of water sources; and the distribution patterns in and among households that reflect social status, economic, specialization, and other social aspects.

Brown, James (Northwestern) [20] Discussant

Brown, Ken (TARL, Texas-Austin) [9] Berger Buffalo: Early Holocene Foraging Station on the Coleto Creek Floodplain, Texas Berger Buffalo is an 8.7 m high sandy bluff on Coleto Creek (Goliad County, Texas coastal plain). The lower 2.25 m, cyclically bedded, gleyed floodplain sediments, represent damp, marshy ground around a former alkaline spring. Charcoal and sediment organics date about 8500-11000 B.P. (uncal). Artifacts are undiagnostic. Adjoining a small unprepared hearth were several thousand bone fragments, some on its surface, only a few charred. This relictive fauna, small inconspicuous animals (aquatic, aerial, terrestrial, and terrestrial-fossorial) indicates successful predation in diverse habitats. The faunal assemblage reflects prey habits. Such flexibility is distinctly human: brecciation (mastication), proximity to the hearth, and partial charring of some bones suggest human predation.

Brown, M. Kathryn (Texas-San Antonio) [13] (see Houk, Brett A.)

Brucohes, Margaret (Texas A & M) [90] Excavations, Underwater Reconnaissance, and Paleoenvironmental Surveys, Northern Lake Atitlan, Guatemala: Results of 1994 Field Season Projecto de Arqueología de Sololá utiliza textuales analizas of the Cakchiquel Maya document, los Anales de los Cakchiqueles (1573), and archaeological investigations of material sites to facilitate the understanding of cultural development of the northern rim of the Lake Atitlan basin in the southeastern highland region of Guatemala. The 1994 field operations include nine test pits and excavations, underwater surface reconnaissance of 15 km northern shoreline, and paleoenvironmental surveys of 25 sq km in the Department of Sololá. Results of ceramic and lithic classification and dating analyses, data on architectural styles, feasibility of continued underwater and paleoenvironmental investigations are presented.

Brunsfiel, Elizabeth (Albion) [26] (see Parsons, Jeffrey)

Brunsweig, Robert H. (Northern Colorado) [105] The Dent Mammoth Site: Directions in Current Research The University of Northern Colorado began conducting a long-term research program at northeastern Colorado's Dent Mammoth site (5WT/269) in 1987. To date, these investigations have been primarily nonintrusive, including: 1) assembly of a database of past research, 2) coring, test-excavations, and analyses of geological samples, and 3) analyses of Dent's extinct faunal and artifact investigations. Current coring and test results support a hypothesis of historically recent reoccupation of the Dent mammoth remains from an upstage, Late Ice Age gully locality. Soil coring of unexcavated site areas provide evidence for the existence of a buried, 5-10 meter wide paleo-draw containing mammoth skeletal materials. Other parallel research includes mammoth season-of-death studies, analysis of radiocarbon dates, taphonomic plant residue remains, and use-wear analyses of Dent Clovis tools. [70] (see Haynes, C. Vance)

Brush, Karen A. (Science Animated) [72] Dangerous Visions? Computer Graphics in Archaeology Computer reconstructions of archaeological sites appear with increasing frequency in museums,
television programs, and commercial 'education' software. Such models can be invaluable visual aids where evidence for the original appearance of a site is sparse or difficult to interpret. However, the increasing photo-realism of such models poses serious problems. Fooling the viewer into accepting an interpretation of the past for empirical fact is both feasible and undermine the ability of such powerful images to rectify particular versions of the past must be mitigated by providing several alternative reconstructions or by deliberately avoiding extreme photo-realism in archaeological reconstructions.

Bryson, Reid A. (Wisconsin-Madison): [133] (see Bryson, Robert U.)

[133] Archaeoclimatology: High Resolution Simulation of Regional Holocene Climates
In order to adequately assess the effects of climate change on human populations, paleoclimatological simulations of human scale are required. That is, these simulations must have high temporal resolution applicable to specific regions. In contrast to the micromorphological nature of General Circulation Models, which require millions of iterations to produce climatic simulations, the palaeoclimatological studies applied here rely on relatively coarse-scale models to produce century-scale simulations of regional climates. Holocenic climatic simulations of the northwestern U.S., Egypt, and the Near East are discussed in light of the archaeological records for these regions.

Buehme, Trici D. (Arizona) and Patrick D. Lyons (Arizona State Museum)

[85] Answering Vessel-Based Questions with Sherd Assemblages: Life History Studies of Ceramic Variability
For archaeologists interested in behavior, the appropriate unit of analysis is the individual artifact that once was whole. Given that archaeological ceramic assemblages are usually made up of sherds rather than whole vessels, efficient frameworks for answering vessel-based questions are crucial. While methodological inroads have been made over the years, important problems remain. This paper examines a variety of approaches and seeks to combine the best aspects of these in a life history approach to ceramic variability.

Buck, Paul E. (Desert Research Institute, Reno) (see also Haynes, Gregory M.)

[121] In-Field vs. Laboratory Analyses of Lithic Scatters in the Yucca Mountain Area
The Yucca Mountain Project has been conducting in-field analyses of surface scatters of chipped stone artifacts in southern Nevada. After their collection as part of mitigative data recovery, the assemblages were analyzed using a more traditional method in the laboratory. In-field analyses are more practical and can be more cost-effective if completed in the field. In-field analyses can reduce curation charges and satisfy some native American concerns regarding artifact collection.

Bucelker, Edward, Timothy Holsafi, and Deborah Pearseall (all, Missouri)

[54] The Domestication: The Molecular Evidence With Respect to Biogeography and Early Holocene Climate Change
A molecular evolutionary study of Zea riosalmon ITS sequence is integrated with a novel model of Pleistocene and Holocene environmental changes in order to reconstruct the timing and the location of maize domestication. Molecular evidence indicates Zea muysi speciation at the end of the Pleistocene. A warm and wet early Holocene allowed Zea mays subspecies to spread throughout central Mexico. The Balsas, Oaxaca, and Tehuacan valleys probably all contained the maize ancestor Zea mays subsp. parvipogon. Maize was likely domesticated only once, and subsequent teosinte hybridization was minimal. Teosinte exploitation was probably minimal until the first steps of domestication occurred.

Buckmaster, Mark M. (Northern Michigan)

[51] Current Evidence for Late Pleistocene and Early Holocene Occupation in the Central Upper Peninsula of Michigan
Since the discovery of 86 Eden-Scobuff and other early projectile points in Central Marquette County in 1987, attention has been focused on the surrounding uplands in an attempt to expand information of Late Paleoindian and Early Archaic cultures. Limited site surveys of specific lakeshores and several cultural resource management projects have recently documented Agate Basin, Hell Gap, and associated Early Archaic projectile points. In addition, test excavation of a large quarry site produced evidence of an early quartzite industry and a C-14 sample.

Bullock, Peter Y. (Museum of New Mexico)

[19] Non-Invasive Assessment of Anasazi Mortuary Behavior
Traditional descriptions of Anasazi mortuary practices are based on undisturbed interment features. More recently our attention is drawn to mass burials and evidence of cannibalism and violence. The focus of these behavioral extremes limits our understanding of the range of mortuary behavior, and our ability to relate this behavior to the broader context of Anasazi culture. This study addresses additional dimensions of Anasazi mortuary behavior represented by secondary interments, body modification, and by the recovery of human skeletal elements from non-burial features. These generally overlooked occurrences suggest deliberate post-mortem treatment of human bone such as for curation or ancestor worship.

Bullock, Peter Y. (Museum of New Mexico) and Nancy Hanks (Western Illinois)

[42] The Origin of Blue Corn in the American Southwest
Blue corn is a traditional regional food of the American Southwest, but is it a native crop? We suggest blue corn was introduced into the region from another area known for blue corn, Tlapacoya, Mexico. The Tlapacoyans, as Indian auxiliaries of the Spanish, were documented actively involved in the Spanish conquest and settlement of Northern Mexico, Texas, and probably New Mexico. No prehistoric blue corn is known archaeologically. A total lack of prehistoric blue corn in the Southwest combined with a Tlapacoyan presence, makes Spanish conquest the likely agent for the introduction of blue corn into the American Southwest.


[10] Landscape, Sociocultural Relations, and the Interpretation of the Surface Archaeological Record
Eolian geomorphic environments present a challenge to archaeologists in the interpretation of the surface archaeological record from such contexts. Research conducted in southern New Mexico and western Texas indicates that traditional definitions of eolian surface distributions result in biases and misapprehensions of eolian sand forms. The research presented here discusses the phenomenon of eolian induced artifact displacement and methods for interpreting such distributions.

Burke, Ariane (Manitoba)

[60] Seasonal Resource use in Southwestern France: Defining Mobility on Regional and Local Levels
Mobility is central to our definition of hunter-gatherers. Hunter-gatherer adaptations are viewed as essentially dynamic and, therefore, flexible in their response to change. Recent studies of seasonal resource use in southwestern France, however, have shown that the degree of mobility in hunter-gatherer settlement systems may vary at different scales of analysis.

Burkholder, Jo Ellen SUNY-Binghamton

[65] Ceramics and Cultural Process at Iwai, Bolivia, A Towanak Site
The Iwai site is divided into two components separated by volcanic ash. Ceramics from above the break exhibit Towanak affinities, however, the lower component is enigmatic. As part of refining the chronology for Towanak it is important to place this lower component in terms of cultural affiliations and absoute date. This paper examines the ceramics from this lower component and their affiliations. Materials are associated with at Iwai and similarities to already known ceramic traditions are of interest. Most interesting is the apparent unrelatedness to either Chiripa, one of Towanak styles, or other possible forerunners.

Burrini, Daniele B. (Universita' di Siena, Italy): [76] (see Donadille, Randolph E.)
ABSTRACTS OF THE SAA 60TH ANNUAL MEETING

Barton, James (Wisconsin) and Lori E. Wright (McMaster)
[68] Reassessment of Barium and Strontium as Paleodietsory Indicators
Barium and strontium in bone preserve a record of the high-calcium foods in past diets. Although they do not yield, as previously believed, a simple measure of the dietary plant/meat ratio, they can enhance our knowledge of past subsistence strategies. When used with other evidence, including knowledge of the compositions of foods, they can constrain the range of possible diets and provide information about a variety of dietary factors such as the consumption of high-starch cultigens and seafood.

Bastani, Wendy (Smithsonian)
[74] Genotypes of Species: A Spatial Analysis of Domestic Structures in Chaco Canyon
Archaeological theories of space generate methodologies useful for consistent description and quantification of archaeological space and spatial relations. The theoretical construct of generic function can be used to examine the sequencing of space in terms of movement through and occupation of space. Analyzing building intervals in terms of the identification of inequality genotypes that measure functional differentiation within spatial configurations. The application of generic function, genotype and functional differentiation analyses to small structures of the classic Chaco phase in the American Southwest produces new insights into domestic spatial organization.

Butler, Virginia L. (Portland State) and R. Lee Lyman (Michigan-Columbia)
[58] Taxonomic Identifications and Faunal Summaries: What Should We Be Including in Our Faunal Reports?
Most faunal analysts asking questions of subsistence and paleoecology would agree that taxonomic identifications form the cornerstone of their research. Yet there is little agreement about what constitutes an adequate sample or a list of taxonomic families. Should data summaries include explicit criteria used to assign specimens to taxonomic category? What approaches to reporting best advance our science and ensure an adequate archive for future research? Given the tremendous (and increasing) number of faunal studies generated each year and the range in detail provided, it is time to examine our approaches to documenting taxonomic identifications.

Butterworth, Kolleen R. (Ohio Department of Transportation) and Craig Keener (Ohio State University/Ohio Department of Transportation)
The Ohio Department of Transportation is planning to relocate and widen approximately 100 miles of existing US 30. Three to four alternate corridors varying in width from 500-2,000 feet were surveyed from west to east along the 100 mile alignment for archaeological resources. This survey resulted in the location and inventory of over 3,000 new archaeological sites. These sites represent a continuum through time from Paleoindian to Historic and cross-cut a variety of environmental setting in Ohio. An overview of the results of the survey will be presented in graphic format. Using mapping and charts as illustration, some preliminary conclusions will be presented concerning site distribution along the survey corridor.

Butlers, Pamela J. (Texas-Austin); [13] (see Huggins, Paul J.)
Byrd, John E. (East Carolina)
[120] Differential Subsistence Patterns During the Swift Creek Phase
Faunal remains from several Gulf Coast prehistoric sites belonging to the Deptford, Santa Rosa-Swift Creek, and Swift Creek Phases were analyzed. Species composition in the assemblages from all phases indicate a high reliance on estuarine resources. Further, fish bone element frequencies and large fish size in the Swift Creek assemblages suggest that Gulf Coast Swift Creek peoples had developed more advanced fish capture and storage techniques than their contemporaries of the Pensacola Bay area or the Atlantic Coast. The advanced fishing techniques are believed to be related to the greater complexity of Gulf Coast Swift Creek culture.

[10] (see Overo, Dafydd D.)

Cable, John S. (New South Associates)
[129] A Late Archaic Ceramic Sequence for the South Carolina Coast
Although sand- and fiber-tempered Late Archaic ceramics on the South Carolina coast have been the subject of much research and debate for more than 50 years, detailed chronology-cultural sequences have never been developed. A recent multi-attribute analysis of the Spanish Mount assemblage provides a basis for not only calibrating the chronological position and cultural affiliation of this large shell mound, but also allows the opportunity to construct a much broader correlation of regional assemblages. This paper will describe the results of the Spanish Mount analysis and present a new model of the Late Archaic ceramic change for the region.

[120] (see Wallace, Debbie)

cackler, paul (Missouri-Columbia), Michael D. Glasscock (Research Reactor, Missouri), Hector Neck (Research Reactor, Missouri), and Beverly Mitcham (Pennsylvania Historical and Museum Commission) (see also Reese-Taylor, Kathryn)
[94] Neutron Activation Analysis of Chert Artifacts from Cerros, Belize
Black chert artifacts have been found at Cerros and other coastal sites in northern Belize. Most of the Cerros assemblage is made of bored brown and gray cherts which were imported from litchi wood located 90 km to the south. Little black chert occurs in the workshops and few investigators have suggested that the black coloration results from the submersion of chert artifacts in water. Adding to the controversy is the recent discovery of a possible black chert source. Our research addresses this question through the neutron activation analysis of black chert samples from Cerros and the possible source areas.

Calabrese, Francis A. (National Park Service); [74] Participant

callmer, johan (Humboldt University)
[128] Site and Settlement in Southern Scandinavia Ca. 600-1100 A.D.
In the sixth and seventh centuries, settlement in southern Scandinavia is largely reconstructed as a result of economic and social/political changes. A stable system of agglomerated settlements is established in the core regions. Peripheral areas are dominated by small units and have a more unstable pattern. Political centers as a distinct category already appear earlier but their number increases markedly during the period. Trading places of a manifest character make their appearance in the seventh/eighth centuries. Both centers and trading places play an important role in the urbanization process. The medieval settlement pattern is formed during the period.

Cameron, Catherine M. (Advisory Council on Historic Preservation)
Technical choices made in the built environment of the northern Southwest are used to explore the cultural identity of actors in the population movements of the late prehistoric period (A.D. 1200-1400). Archaeologists have long recognized that this period was marked by widespread regional abandonment and reorganization of population, yet the causes, scale, and the manner in which these population movements took place remains obscure. Stylistic variation in ceramic traditions is the most commonly used tool for identifying cultural boundaries in this area, but the technology of built environment may add significantly to our understanding of interactions across cultural boundaries that result from population movement.

[25] Discussant

[48] (see Anon, Roger)

capone, patricia (Harvard)
[56] New and Used Directions in Glass Ware Production-Exchange Studies: A Current Petrographic Example from the Protohistoric South-Central Rio Grande
Born in the Rio Grande, ceramic petrography can continue to lead us to new directions in production-exchange studies. This study provides an example of combining existing data and collections from the protohistoric south-central Rio Grande with new approaches and new results to illuminate: 1) expanded knowledge of production-exchange networks, 2) questions beyond trade reconstruction that can be addressed, 3) the ability to investigate technology through petrography, and 4) the potential of combining old and new data and approaches to broaden the effectiveness of petrography.

Caran, S. Christopher (Texas-Austin); [82] (see Neely, James A.)
Carlson, Claire C. (Massachusetts-Amherst)
[102] Social Memory at Pine Hill: A Critical Perspective on the Pocomtucket after the Contact Period
This paper challenges the historical construction of the absence of Native Peoples from the Connecticut River valley since European colonization. Using oral traditions, written histories, and archaeological data, I will challenge the notion that Native peoples were absent from the valley in the 18th and 19th centuries. Critical interpretation of this data set is offered as one way to talk about the continued use of the Deerfield landscape by the Pocomtucket.

Carr, H. Sorrany (Boston)
[130] Some Reflections on Interpreting Archaeanas from Northern Yucatan
Archaeology has provided accumulating evidence on many facets of life in Yucatan.

[94] (see Wallace, Debbie)

[56] (see Anon, Roger)

[120] (see Wallace, Debbie)

[128] (see Callmer, Johan)

[62] (see Cameron, Catherine M.)

[25] (see Anon, Roger)

[48] (see Anon, Roger)
Nevertheless, certain patterns that appear in the faunal data present interpretive difficulties. Examples are the spatial distribution of fish and iguana remains, cited as evidence for participation in trade networks (fish) and as an aspect of changing subsistence strategies through time (iguana). Interpretation of these patterns has been hampered by non-comparable contexts and recovery techniques. Experimental application of similar techniques in a variety of contexts, combined with controlled excavation, may help to improve our understanding of these patterns.

Carr, Kurt (National Park Service)

Paleoindian Settlement Patterns at the Neotribal Site

The sourcing of lithic material has long been a central theme in defining Paleoindian settlement patterns. Withof (1951) used sourcing studies to argue for the long distance movement of material while Garver (1976) suggested that Paleoindian movements were relatively short, less than 100 km. Melzer (1984) suggests that these patterns represent different adaptations to glaciated and unglaciated environments. This paper will examine published data on the Neotribal site and over 300 sites in Pennsylvania. Although the most majority of the sourcing studies were based on macroscopic analysis, there is also evidence of debitage and tools which supports Melzer’s hypothesis of the northern and southern patterns.

Carrasco, Rómulo (Instituto Nacional de Antropología e Historia)

Carrelli, Christine W. (Rutgers)

Masonry Construction Systems at the Acropolis, Copan, Honduras

[58] Carrelli, Christine W. (Rutgers)

Ceramic Production at the Karamahmarash Valley, Turkey

The Karamahmarash Valley is an archeologically unknown and fertile area in southeastern Turkey. This presentation will focus on the evidence for the local production of Middle to Late Chalcolithic ceramics identified during the course of our survey work in the valley in 1993 and 1994. Preliminary analysis of sites that showed the Middle Chalcolithic (Halaf-Urbanc) era (5500–4500 B.C.) and early settlement were concentrated at a single village site (18–20 ha site) during the subsequent Late Chalcolithic (c. 4500–3400 B.C.) and EBA I (c. 3400–3000 B.C.) periods, there is evidence of local variation in production at various sites in the valley. Changing patterns of ceramic production will be discussed with regard to contemporary settlement systems identified in the region.

Carucci, James

The Impact of Prehistoric Humans on Marine Ecosystems: Faunal Evidence from the Rock Islands of Palau

The Palau Archipelago in southwestern Micronesia was colonized relatively late in prehistory. Humans apparently arrived about A.D. 1 by A.D. 600, small populations began extracting food resources from the coraline islands south of Palau. Historic periods developed by A.D. 1200, and the number of humans in the area had begun to affect the rich local resources. Faunal evidence indicates that marine food resources in the Rock Islands were significantly impacted late in time. Prehistoric Palauans lived in the permanent Rock Islands villages “over-fished” certain resources, causing crab populations to fall, and mollusks in fish to decrease in average size.

Carrasco, Rómulo (Instituto Nacional de Antropología e Historia)

Caruso-Wessel, Terri (Earth Tech.), Sharon Rushing, Kerry Hennon, and Julio Roldan


The use of geophysics can greatly benefit archaeologists in their attempt to characterize subsurface cultural materials. In this presentation, we describe our methodology for archaeological evaluations, which involves the use of geophysical techniques (primarily proton magnetometry and ground penetrating radar (GPR)) designed specifically for each individual site. We will demonstrate the effectiveness of the techniques based on the following criteria and objectives: 1) vertical and horizontal site boundary definition, 2) location of subsurface deposits and/or features, 3) measurement of site dimensions, 4) positive results gained from excavation. Examples will be provided from studies in Arkansas and California.

Casas, Lisa M. (SUNY-Albany), Timothy S. Hare (SUNY-Albany), David K. Schaffer (New York State Museum), and Michael E. Smith (SUNY-Albany)

Archaeological Survey of the Yautepec Valley, Morelos, Mexico

We describe the results of a survey of the Yautepec Valley conducted in 1995. Various methods were employed: full-context excavation, large scale collection at a sample of sites; limited test-pitting; and non-site surface collection from transects. Over 500 km were surveyed, resulting in the identification of over 300 sites, with occupations from the Early Formative through the colonial period. Preliminary analysis of the site distribution patterns and regional organization are presented here. We give particular attention to the Early Formative and Late Postclassic periods, when population and social complexity were at peak levels.

Casella, Eleanor Coulin (California-Berkeley)

Casella, Eleanor Coulin (California-Berkeley)

Casella, Mark S. (Mississippi Valley Archaeological Center/University of Illinois at Urbana-Champaign) and Wendy K. Holtz

Agriculture and Material Culture in Wisconsin’s Central Sands, Ca. 1870–1940

In 1994, Wisconsin’s Central Sands was the location of archaeological research focused upon historic barns, a resource base which is among the most frequently encountered but poorly understood in cultural resources management. The Barns project’s sample dates between 1870 and 1940, an era of multiethnic immigration into a marginally productive agricultural area, and of government wetlands drainage programs which resulted in further environmental degradation. Despite increasing arable land, agrarian land use persisted. This paper links archaeological and historical data to provide insights into material manifestations of human social adaptation to changing conditions of agrarian production before World War II.

Cassella, Alberto and Maurizio Moscolino (both, Università “La Sapienza,” Rome)

[76] The Walled Bronze Age Settlement of Coppa Novigna, Manfredonia, and the Development of Craft Specialization in South-Eastern Italy

The Bronze Age settlement of Coppa Novigna was inhabited from the beginning of the second millennium B.C. We don’t know if it was fortified in the earliest phases of occupation, but it is possible that its presence on the border of a lagoon was selected because its inhabitants could engage in maritime trade by boat. The area, being exposed to attacks from the sea, was a local natural resource (Murex trunculus) was exploited to produce purple. Huge fortification walls were built at the middle of the second millennium B.C. by the Late Bronze Age (12th–11th centuries B.C.) craft activities such as pottery, bronze and probably iron production were carried on.

Cesarek, Ellen (SUNY-Albany)

Organizational Variability and Prehistoric Land Use in the Hoosic River Drainage

The Hoosic River Drainage is a combination of arable land and wetland environments during the early postglacial period (12,000–8,000 B.P.). This drainage has been documented in several regions of northeastern North America. Nichols (1984) proposed a model for the location of residential areas during and after this period based on temporal changes in resource productivity. Lithic assemblages from the Hoosic River Drainage are analyzed in the framework of this model. Collections included in the analysis result from both amateur and professional activity. Methods used to generate comparable data are discussed.
Chabai, Victor (Institute of Archaeology, Ukraine): [97] (see Marks, Anthony E.)

Chadelle, Jean-Pierre (Service Regional D'Archeologie): [57] (see Blades, Brooks)

Chaloupka, George (Northern Territory Museum-Australia): [17] (see Chippindale, Christopher)

Chambers, Karen E. (Pennsylvania State) and James R. Purdue (Illinois State Museum)
135 Building Blocks of Bison: Ancient DNA Analysis of Archaeological Animals
Sequence and RFLP analysis of bison populations from the Glenrock site in Wyoming and the Hudson-Meng site in Nebraska are compared with similar data from extant populations. Analysis focuses on the mitochondrial genome, in particular, on the D-loop or control region. In these archaeological populations, animal behavior is believed to have had a marked effect on the mitochondrial gene pool.

Champion, Tim (University of Southampton): [55] Discussant

Chan, Alexandra (Vassar): [133] (see Johnson, Lucy Lewis)

Chapman, Bob (University of Reading): [117] Discussant

Charles, Douglas E. (Wesleyan) and Jane E. Buhkstra (Chicago)
33 Structural Evidence of Ritual Practice at the Hopewell Moundhouse Site in West-Central Illinois
Excavations conducted during the summer of 1994 by the University of Chicago Field School at the Middle Woodland (Hopewell) Moundhouse site in the Illinois River valley recovered evidence of successive periods of construction, modification, and use of the large mound situated at the site. The evidence includes prepared surfaces, concentric rings of postmolds which had been filled with distinctive soils, and pits filled with refuse resulting from activities associated with the mound. These features appear to be unique to the region as accounts from earlier excavations at similar sites do not include these structural components.

Charles, Ruth (Queens College, Oxford)
68 Butchery Evidence from the North-Western European Late Upper Palaeolithic
This paper will examine the butchery evidence from a number of Late Upper Palaeolithic sites in the Mesolithic basin. Recent work on the chronology of the Late Magdalenian settlement of this region will be presented. Evidence for large mammal exploitation from the Tron de Chalouz, Tron de Nauc, Tron de Frontal, and Grotte de Coëtlesse and the Grotte de Sournage will be discussed.

Charlot, Thomas H. (Iowa): [26] (see Evans, Susan Toby); [26] (see Nichols, Deborah L.)

Charlot, Thomas H. (Iowa) and Patrice Fournier G. (Escuela Nacional de Antropología e Historia, Mexico)
125 The Changing of the Guard: The Early Colonial Period in the Basin of Mexico Cortes' defeat of the Aztecs on August 13, 1521, marks the transition of the Basin of Mexico from the center of an indigenous imperial system to one of the far flung peripheries of the Hispanic empire. Recent archaeological research in the basin and adjacent areas has clarified the variable impact of the new imperial system with respect to the urban-rural continuum, socioeconomic status, and ethnicity of the indigenous and intrusive populations. Contrasts and continuities between the Aztec and Hispanic systems are addressed.

Chatters, James C. (North American PaleoScience)
103 Resource Intensification and Demography on the Plateau of Western North America Since the mid-Holocene, Plateau hunter-gatherers evolved from dispersed, residentially mobile foragers to semi-sedentary, seasonally nucleated, logistically mobile collectors. First, mobility frequency declined and the niche broadened, then narrowed, with dispersed sedentism, small mobility range, and extensive food processing and storage. Finally, mobility range increased, along with seasonal nucleation, and a gradual widening of the niche. This relationship of the changes to regional demographics indicate that some forms of intensification may be density-dependent, while others are density-independent. Archaeologists may be combining multiple phenomena under the concept of intensification, restricting our understanding of cultural evolutionary process.

Chenault, Mark L. (SWCA, Inc.): [118] (see Mottinger, Thomas N.)

Childress, William: [87] (see Schuldenrein, Joseph)

Childs, S. Terry (Smithsonian)
124 "After All, a Hoe Buys a Wife": The Social Dimensions of Iron Working in East Africa
Childs examines the way in which iron-working in the Chewa of eastern Tanzania, a time when iron was becoming a common tool in East Africa, was perceived and practiced. He explores the ways in which social and cultural factors were involved in the development of iron-working in this area.

Chilton, Elizabeth S. (Massachusetts-Amherst)
62 The Cultural Origins of Technological Choice: Unraveling Algonquian and Iroquoian Ceramic Traditions in the Northeast
In the quest to interpret ethnohistory and chronology for the Late Woodland period (A.D. 1000-1500), archaeologists in the Northeast have focused primarily on decorative attributes of ceramics. However, the notion of technological style provides a more appropriate model for understanding the complex relationships within and between groups in the region. Technological style or instrumental form includes choice of clay, temper, shape, wall thickness, and techniques of construction and firing. I suggest that the discernibility between Late Woodland Algonquian and Iroquoian ceramic assemblages reflects a more profound difference in these societies' technological systems, which includes house form, settlement patterns, mobility, and social complexity.

Chippindale, Christopher (Cambridge University): [76] (see Barfield, Lawrence)

Chippindale, Christopher (Cambridge University), Paul S. C. Taçon (Australian Museum-Sydney), D. Erle Nelson (Simon Fraser), George Chaloupka (Northern Territory Museum-Australia), and John R. Southon (Lawrence Livermore)
102 How Rock-Art Figures Vary Over Time: Lessons from the Northern Territory of Australia
Faced with evident variability in ill- or un-dated material, the archaeologist starts from the reasonable expectation that variability mostly arises by the passing of time: perceived 'style' will be a good indicator of date. Rock-art in western Arnhem Land, in the Northern Territory of Australia, is unusually well-dated. In its complex pattern of changing variability, we can start to see a real picture which is more complex and more credible.

Christensen, Alexander F. (Vanderbilt)
34 Cranial Non-Metric Evidence for the Nahua Migrations
In Mesoamerica, traditional craniometric studies of biological affination have been hampered by the widespread practice of craniological deformation. Discrete non-metric traits of the cranial, however, appear to be largely unaffected by deformation. This study analyzes non-metric data from ten central, north, and west Mexican populations in a preliminary effort to trace the Nahua migrations. Two distinct clades appear in multidimensional scaling and principal components analysis of 17 trait frequencies: Aztec-Mexico and Formative-Classic Basin of Mexico. This supports ethnohistoric evidence for Nahua movements from the northwest after the fall of Teotihuacan.

Christiansen, Bunde
91 Concept: Cultural Change; Regional Resources

Christiansen, George W. (Wisconsin)
16 Red Wing Mississippian: A Case of Mistaken Identity
The Mississippian occupation of the Red Wing Locality during the 10th through 12th centuries A.D. has been interpreted as a site-unit intrusion by Mississippian peoples from the south upon either a Late Woodland or Oneota population. This conclusion is inadequately supported and serves to mask the discovery and significance of sociopolitical interaction on the northern frontier of the Midwestern Mississippian Tradition. A theoretical model of the origin and political structure of these peoples is presented in an attempt to explain the material remains and settlement structure for this region. It is concluded that the Red Wing phenomenon was not a site-unit intrusion, but instead the result of peripheral contact, possibly alliances, with Mississippian peoples to the south and west.

Church, Flora (Archaeological Services)
14 A Hawepell Settlement in the Lower Scioto Valley: Site 33PK153
Site 33PK153 is located in the Lower Scioto River Valley in Pike County, Ohio. Excavation of the site revealed evidence of multiple structures, storage and refuse pits, and cooking and other thermal features, representing distinct activity zones. A series of 28 radiocarbon samples were submitted for analysis, as were flotation samples from all features and postmolds. The artifact assemblage...
consisted largely of lithic debitage; ceramics and faunal material were more limited. Microwear analysis was performed on a sample of lithic items. An Archaic component was also documented on the northern edge of the site.

Church, Warren B. (Yale)

[53] A Pre-Inca Waystation in the Northeastern Andes of Peru

Colonial period chroniclers and modern Andeanists have devoted considerable attention to the elaborate Inca system of communication and transportation with its paved highways, waystations, storehouses and provisioning facilities. Recent research has identified Pre-Inca roads dating to the Middle Horizon and as early as the Initial Period, yet no evidence for waystations nor other associated administrative facilities typical of the Inca system. This paper presents archaeological data recently excavated at Manachachi Cave in the Northeastern Peruvian Andes, and considers evidence that the site functioned as a pre-Inca waystation.

Cinquino, Michael A., Michele H. Hayward, and Inez Reed Hoffman (all, Panamerican Consultants)

[54] Excavations at the Aklis Site, Sandy Point National Wildlife Refuge, St. Croix, USVI

In 1994, Panamerican Consultants, Inc., completed an intensive field investigation at the Aklis prehistoric site (late Saladoid period), located on the Sandy Point National Wildlife Refuge, St. Croix, USVI. The project was conducted for the U.S. Fish and Wildlife Service under contract to the National Park Service. Before the excavations began a number of hypotheses concerning the chronology, settlement pattern, resource procurement, and demographic patterns of the Aklis population were posited. The results of the stratigraphic, ceramic, botanical, and faunal analysis are employed to address the research issues presented in this paper. 

Clark, Donald W. (Canadian Museum of Civilization): [100] (see Hauter-Knecht, Philomona)

Clark, G. A. (Arizona State)

[60] Intraregional Variability in the Epipaleolithic of Atlantic Iberia

After two decades (1966-1980), and partly because of generational replacement, late Upper Paleolithic and Mesolithic hunter-gather adaptations along the Atlantic coast of Iberia became the subject of renewed research efforts over the past 15 years. Conducted under a broadly defined ecofunctional paradigm, this post-1980 work has yielded a more complete picture of intraregional variability than was available previously. Although differences are apparent in the timing and details of adaptation between the Cantabrian coast of Spain and the Atlantic coast of Portugal, similar processes of resource diversification and intensification can be documented in both areas.

[22] (see Barton, C. Michael)

Clark, Jeffrey (Center for Desert Archaeology): [62] (see Stark, Miriam)

Clark, John E. (Brigham Young)

[40] Craft Specialization in the Mesoamerican Formative

Control of specialized production of various types of craft goods is seen by many as one path to power and, hence, is considered as a possible critical factor in sociopolitical evolution. For Mesoamerica, various authors have argued that specialized production was pivotal during the Formative period in the transition from egalitarian to rank societies and from chiefdoms to states. In this paper, I consider recent studies that attempt to link the presence of specialized craft production to critical processes of social and political transition.

Clarkson, Persis B. (Winnipeg)

[59] The Textualization of Geopolitics

Numerous theories abound about the origin and purpose of the Nazca geoglyphs. This aspect has been thoroughly explored in a number of studies based upon astronomical, archaeological, ethnographic, and geographic fieldwork, and upon analyses of the Nazca geoglyphs as part of the greater Andean culture-area. Reflective analysis suggests that biases do occur in interpretations of cultural data. Some of these biases are examined, and alternative indications of the text and context of the Nazca geoglyphs are examined in the light of revised data from fieldwork and radiocarbon analyses.

Cleggithorn, Naomi E. (Texas-Austin) and Melinda A. Zeder (Smithsonian)

[109] A Reconsideration of the Evidence for Animal Domestication in the Zagros from the Perspective of the Upper Paleolithic at Yafteh Cave

In fact, Wynn, Flannery, and Hackett excavated a series of Upper Paleolithic caves (20-30,000 B.P.) in the upland areas of northwesten Iraq. Kill-off patterns for the captive remains derived from these sites, especially those from Yafteh Cave, served as an important bench mark in the determination of the domestic status of caprine assemblages in a number of proto- and early Neolithic settlements in the region. This paper examines recently collected caprine metric data from Yafteh Cave and data from sites dated to proto- and early Neolithic settlements as a means for evaluating metrically based claims for domestic status of these later assemblages.

Clay, Angela (Ohio State)

[57] Lithic Economy in the Absence of Stone

Small, highly mobile groups of Early Holocene gatherer-hunters on the Saffa Sandsheet (southwestern Egypt) traveled for several days (or even weeks) at a time across a region completely lacking stone. They brought with them blocks or large flakes, which served as cores to produce blanks that were for immediate use and were rarely retouched. In a separate but complementary system, they carried large retouched tools, made on flakes struck outside the Sandsheet, and re-edged them many times. Stone was stock-piled along favored routes, and earlier artifacts (some of them Lower Paleolithic) were recycled.

Cobb, Charles R. (SUNY-Binghamton)

[41] Specialization, Surplus, and Power in Chiefdoms

Archaeologists often use producer specialization as a point of departure for evaluating economic, social and political complexity. Many approaches involve breaking specialization down into discrete types of production organization strategies. This paper argues that diversity in specialization can be understood as a function of the social organization of surplus labor, where access to surplus production is defined and mediated through different forms of power relations. Using late prehistoric societies in the American Southeast as a case study, the nature of specialization, surplus, and power is explored with respect to "chiefdoms."

Cobane, Robert (Instituto Nacional de Antropologia e Historia)

[26] Chronology of the Tula Region: Revision and Update

Chronometric dates and ceramic sequences from recent excavations of several localities within the site of Tula, Hidalgo, and nearby sites has provided an opportunity to clarify current knowledge of the events surrounding Tula's origins and development. Given this new information it is necessary to reexamine that which we refer to as Tula or Toltec throughout the Basin of Mexico in the beginning of the Postclassic.

Cobos, Rafael (Tulane)

[130] Chichen Itza and Its Settlers During the Terminal Classic Period: Analyzing the Maya and Toltec Occupation of the Site

The occupation of Chichen Itza by Yucatec Maya and non-Yucatec Maya people is analyzed in this paper. New data obtained during the 1993 and 1994 field seasons is used to evaluate the "Toltec" presence at the ancient Itza capital.

Coggin, Clementy Charles (Boston)

[114] The Stone of Yucatan

This paper considers the significance and Maya use of limestone in ancient Yucatan—as bedrock, road, building, masonry, lime, monuments—with emphasis on the several roles of the stone at Dzibilchaltun, including structures of Pap Uxmal, Uxmal, Ake, Chichen Itza and Mayapan.

[114] Discussant

Cogswell, James M. (NAP Research Reactor Center), Louis Ross, Jr. (Missouri), and Michael J. O'Brien (Missouri)

[14] Analysis of Postdepositional Effects on Prehistoric Ceramics from Southeastern Missouri: Implications for Provenance Studies

Diagenesis has long been suspected to contribute to the signature measured by bulk chemical analysis. This paper focuses on the effects of diagenesis on southeastern Missouri ceramics using NAA and SEM microanalysis. Originally, diagenesis was indicated in a series of experiments using hydrochloric acid to leach sherds for temper analysis. The acid removed up to 10% by weight from clay tempered sherds, and the amount of leached material decreased with excavation depth. The analyses described in this poster identify the added material and pinpoint its location within the clay. Possible mechanisms for its deposition and implications for provenance studies are discussed.

Cohen, Amanda B.

[99] Ritual and Landscape in the Moquegua Valley, Peru

The Moquegua Valley of southern Peru offers archaeologists an opportunity to study ritual activity from an early period through the Tiwanaku occupation. Chronological and cultural variations between local cultures and highland influences are of interest. Archaeological data obtained through
systematic survey suggest the possibility of ritual that involved the use or worship of the landscape by both the individual and the community. Indications of personal worship are common to nearly all sites and periods in the Valley. On the level of the community, group-organized ritual indicated political and societal change as well as interregional interaction.

Cohen, Janet (Navajo Nation Historic Preservation Department): [54] (see Swidler, Nina)

Collins, James M. (Iowa Office of the State Archaeologist)

[135] The Regional Significance of a Shell Mask Gorget from the Upper Iowa River Valley Archaeological Survey. A small anthropomorphic masque made from marine shell (Bacotypus sp.) was recovered from a protohistoric Onotoa grave in northeast Iowa. The primary context and subsequent history of the object are identified. The artifact is described, and the significance of the shell mask gorget is briefly discussed from a regional perspective. It is proposed that the mask represent symbols used by westward migrating Dhegian groups in situations exactly analogous to historically documented culture ceremonies, thereby fostering formal, favorable relationships, based on fictive kinship ties, with the indigenous Chippewa populations of the Prairie Peninsula.

Collins, Michael B. (TARL, Texas-Austin), C. Britt Bousman (Texas-San Antonio), Barry W. Baker (Texas A & M), and C. E. Meek (TARL)

[9] Paleomarine Subsistence Patterns in Central Texas Direct and indirect evidence indicates that specialized big-game hunting characterized the adaptations of only the Folsom and Cody intervals within the Paleomarine Period (12,000 to 8,000 B.P.) in Texas. This is manifest in central Texas at campsites such as Wilson-Leonard, Kincaid, and others where Clovis, Wilson, Angostura, and other components with unfluted lanceolate points occur with varied faunas and specialized tool kits in settings optimizing access to diverse resources. Considered in light of continent-wide patterns, generalized adaptations in the interval 12,000 to 8,000 B.P. are the norm and big-game hunting specialization is the exception.

Cullen, Roger H. (Institute of Archaeology-UCLA)

[133] An Adaptational Model of Emergent Complexity among Hunter-Gatherers in the Santa Barbara, California Region While political models of emergent complexity have been demonstrated to explain cultural evolution in some agriculturally supported chiefdoms, an adaptation model better explains the rise of chiefdoms, among the Chumash, a complex hunter-gatherer society. Archaeological and physical anthropological data indicate that chiefdom-level social organization developed in the Santa Barbara, California, region between approximately A.D. 1150 and 1350, a time of environmental change. In this paper I discuss the implications of data on subsistence, craft activities, exchange, mortuary practices, and health and physical variation for adaptation models of emergent complexity and the importance of ecology and change in Chumash social organization.

Currey, Catherine (Centre de Recherche Francais)

[99] Bridging the Rhenish Gap: The Reinvestigation of Manhata Renewed interest in Porro's (1968) so-called "hinter" in the Neolithic occupation of Palestine has prompted new models of explanation that call for new data. Recent excavations at Manhata strive to establish the exact nature of the archaeological record of this period. They focus on the chrono- and geo-arachnigraphy of layers 1 and 2 (terminal PPNB and 2B (Shimshon phase). They also aim to collect new data on ecology and subsistence. Our investigations seem to indicate, rather than a long gap in settlement, several brief occupations punctuated by abandonment marked by erosion and floodplain deposits.

Cronk, Margaret W. (California-Berkeley)

[60] Between the Caves: Open Air Survey and Magdelenian Social Geography in the French Midi-Pyrenees This paper reports on preliminary survey in the Midi-Pyrenees (France) that has been directed at systematic exploration for potential open-air evidence of late Upper Paleolithic peoples who are primarily known for their cave-based activities such as cave wall art and rich bone/antler industries. This survey has been carried out in the context of explicit research concerns with inferences regarding the social geography of late Upper Paleolithic regional occupation and a non-linearly distinct regional material culture. The paper discusses the challenges of resolution and scale for the distributional archaeologies involved in addressing specific regional phenomena.

Crotts, James (University of London) and Jaime Awe (Trent)

[64] Ditched Field Agriculture at Baking Pot, Belize and its Implications for Analyzing Ancient Maya Community Organization

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Recent investigations of nucleated settlement at the ancient Maya site of Baking Pot have revealed an intricate ditched field system, analysis of agrarian potential and excavation data from Baking Pot, coupled with comparative data from the Maya lowlands, are employed in the examination of evidence for the advent and expansion of nucleated settlement. The result is a model of nucleation helpful to be differentiating the significance of nucleation in the interior of the Maya region and the surrounding areas.

Conrad, Lawrence A. (South Dakota State University): [45] (see Ehrhardt, Kathy)

Cowan, Lawrie R. (Colorado)

[52] The Use of Ground-Penetrating Radar to Map the Buried Living Surface and Structures at the Ceren Site, El Salvador The use of geophysics for mapping archaeological sites has usually emphasized the search for subsurface anomalies, where the sites may have archaeological significance. It is now possible at the Ceren site, employing more than 8,700 m of ground-penetrating radar, to accurately map the prehistoric character of surface which is buried below more than 4 m of volcanic ash. Three-dimensional topographic maps of the living surface, and modifications to that surface that are constructed. Buildings, fences, ditches, plazas and agricultural fields are identified.

Cook, Patricia (Arizona) and K. Anne Phyrn (Indiana)

[64] Postclassic Occupation at Chau Hii Maya population and settlement patterns after the collapse at approximately A.D. 900 were very varied: the large centers of the Peten region were abandoned, and sporadic remnant populations, while in the northern lowlands, many sites were experiencing their population peak. At the site of Lamani, in central Belize, the Postclassic populations was found to be quite extensive and long lived. Recent excavations at Chau Hii, located 17 km east of Lamani, have revealed a similar occupation sequence, beginning in the Preclassic and extending well into the Postclassic. This extensive Postclassic occupation raises new questions regarding regional interaction, political and otherwise, in an area where riverine and lagoon systems assured communication, and at a time when many other sites were experiencing significant population declines and decentralization.

Cooke, Richard (Smithsonian Tropical Research)

[127] The Cupica Connection: A Hypothesis for Cultural History of Northwest Pacific Coast of Colombia and Peru: The "Cueva" Lands from Preceramic to Modern Times One of Colombia's least-known archaeological regions is the "Subregion Pacifico Norte." In the 1960s Gerardo and Alicia Reichel-Dolmatoff spent several field seasons in this zone of tropical forests and wetlands. Clearly this region was connected culturally with the "Cueva" lands that in contact times covered much of the Panamanian Darien, San Blas coast, northeastern Urabi, and the Pearl Islands. The Reichel-Dolmatoff's also conducted ethnographic work among the modern Emberas. This and other evidence suggest that the Embera and their neighbors, the Wounaan, are not the "immigrants" from Amazonia, but modern representatives of an ancient forest-adapted culture that occupied much of the Panama Big Island littoral. This paper offers a new interpretation of the "Subregion Pacifico Norte" and the adjacent "Cueva" lands, from Preceramic to Modern Times.

Copeland, James M. and David C. Sims (both, Bureau of Land Management)

[67] The Fruitland Coal Gas Data Recovery Project As part of unprecedented industrial extraction of natural gas in northwestern New Mexico, the Bureau of Land Management adopted a mitigation approach to cultural resources that includes the excavation of entire sites when project effects cannot be avoided. Wherever "right-of-way" archaeology is usually confined to narrow corridors of investigation, the Fruitland Coal Gas Data Recovery Project acknowledges that sites of site features are best examined in a complementary manner to the traditional right-of-way approach. Such an holistic approach satisfies federal regulatory requirements and allows important research to proceed.

Costin, Cathy L.: [58] Discussant

Cutler, John W. (Auburn): [129] (see Wesson, Cameron B.)

Coursey, Cheryl (SUNY-Binghamton) and Melody Pope

[40] Production and Consumption at a Mesopotamian Town: A Local Perspective Much work on the Uruk period in Mesopotamia (c. 3500–3500 B.C.) has focused on broadly defined administrative and economic changes associated with the emergence of states and urbanism. While this work has contributed to understanding the cultural processes operating at the regional level, it
needs to be balanced by an examination of the local level processes that also operated in the Urnfield political economy. This paper will discuss topics including technological diversity and variation in the scale of manufacture in order to identify local strategies of craft and subsistence-related production and use at the site of Abu Salabikh (Iraq).

**Couture, Nicole (Chicago)**


To date, interpretations of Tiwanaku have been based largely on excavations conducted either in the site itself or in the area, and have been dominated by civic-ceremonial complexes, such as the Tiahuanaco Monumental Complex. However, recent excavations in two sectors at Tiwanaku—Mollu Kotos and the Putuni—indicate that Tiwanaku's complex urban landscape cannot be classified as simply ritual or residential in nature. While the dichotomy of the "sacred" and "profane" certainly was present at Tiwanaku, it was not absolute; ritual and residential spaces and activities were closely interlinked.

**Cowen, Frank L. (Loyola-Chicago)**

[46] **Technological Strategies and Mobility: A Small Sites Test**

Tool designs and tool production strategies vary systematically with the mobility of tool users, and the residues of tool production provide strong evidence for the organizational roles of sites. Experiences for technological strategies are presented for small sites in the interior of western New York, based on settlement models for three cultural-historical periods. The hypotheses are tested with data from 45 site components. Very strong correspondences are found between hypotheses and organizational roles and tool production strategies for two periods, while strongly patterned data suggest revisions to the settlement model of the third.

**Cozgill, George (Arizona State); [26] Discussant**

**Crawford, Pan J. (New York)**


The Middle Saxon period (A.D. 450-850) in England was an era of political, social, and economic change. These transformations included the consolidation of the Anglo-Saxon traditions and the emergence of proto-urban centers termed emporia. This paper will use faunal remains from an Anglo-Saxon village (West Stow), Middle Saxon villages (Brandon and Wicken Bonham), and an emporium site (Ipswich) to examine the changes in animal husbandry practices, hunting patterns, and diet that accompanied the emergence of complex societies in eastern England in the early Middle Ages.

**Crawford, Gary W. (Toronto)**

[71] **Introduction**

The early Late Woodland in the Northeast is briefly reviewed in the context of agricultural origins. Although the events surrounding the context of these developments are becoming increasingly clear in the Midwest, this is not the case, particularly in Ontario and the neighboring U.S. Recent research endeavors focusing on the New England Late Woodland, Clements' Island, Owosso, Hunter's Home, Western Basin, and Princess Point cultures, are clarifying the issues surrounding this critical time in the Northeast.

**Creamer, Winfred (Northern Illinois); [19] (see Haas, Jonathan)**

**Creel, Darrell (Texas Austin) and Matthew Williams (Texas Austin)**

[92] **Neutron Activation Analysis of Black Mountain Phase Ceramics from Old Town and Other Sites in the Mimbres Area**

Excavations at the Old Town site have sampled architectural remains of the Black Mountain phase (ca. A.D. 1200-1300). One important research topic being addressed is pottery manufacture, with specific questions as to which, if any, ceramics may be investigated through neutron activation analysis. In cooperation with other researchers, we are attempting to determine technological production in the Black Mountain phase differs from that in the preceding Classic Mimbres phase.

**Crowell, Aron (Smithsonian) and Daniel H. Mann (Alaska-Fairbanks)**

[100] **Sea Level Dynamics and Coastal Archaeology in the Central Gulf of Alaska**

Sea level changes in the central Gulf of Alaska have been evaluated through systematic surveys of the Central Gulf of Alaska, conducted in 1991-1998 by the Smithsonian Institution, National Park Service, and the U.S. Geological Survey, indicate that study areas on the Alaska Peninsula (Keniak National Park) and outer Kenai coast (Kenai Fjords N.P.) have experienced radically different Holocene and pre Holocene sea level histories with important consequences for archaeological site preservation. Correlations between site age and height above sea level are examined in order to reevaluate prehistoric settlement densities and apparent demographic trends.

In particular, Ocean Bay phase sites (7000-3500 B.P.) are far more numerous than previously suspected for Katmai/Kodiak.

**Crozier, S. Neaf (Bureau of Indian Affairs)**

[54] **Cooperation and Partnership…Indians and the BIA Working Together**

In 1987, the Bureau of Indian Affairs conducted the first participatory archeological field school with Native Americans. The success of that endeavor inspired the BIA, Phoenix Area Office, Branch of Roads, to proceed with this educational approach and, to date, three additional joint Bureau/ Tribal field schools have been administered on three different Indian Reservations in the Southeast. By offering training in archeological methods and techniques, complemented by the tribes’ intimate knowledge of their cultural heritage, the cause of historic preservation can only be enhanced. This paper reviews the issues involved, the consequences and the benefits of such educational interaction.

[106] Discussant

**Crumley, Carol L. (North Carolina-Chapel Hill)**

[81] **Hierarchical Management Strategies and Long-Term Research in Burgundy**

The ongoing study of long-term changes in settlement and land use in Burgundy, France, first funded in 1974, has seen a multiscalar, interdisciplinary research design. Our approach to social complexity has led us to view 2500 years of shifting power relations within a framework we term hierarchically. We carry the intellectual architecture of the project into its day-to-day operation, experimenting with a hierarchical management strategy. Characterized by shared and shifting power, delination of short-, middle-, and long-term goals, and collective and individual decision making, responsibility, and rewards, this management approach is discussed and implications for theories of social complexity suggested.

**Crummett, Tracey (Michigan); [97] (see Miracle, Preston)**

**Cruz, Sergio Suarez (INAH-Centro Regional de Puebla); [26] (see McCain, Geoffrey G.)**

**Cruz-Uribe, Kathy (Northern Arizona); [38] (See Participant)**

**Cummins, Linda Scott (Paleo Research Labs) and Rosa Maria Albert (SERP-Universitat de Barcelona, Spain)**

[105] **Phytoliths and Diet: Mammoth Teeth from the Dent Site**

Phytoolith analysis of tartrate removed from mammoth teeth recovered from the Dent site, and now curated at the Denver Museum of Natural History, points to the role of mammoth in the Late Pleistocene. Phytoliths recovered from mammoth present plants consumed by mammoths present at Dent the time of human occupation. This phytolith record is compared with modern vegetation and phytoliths from modern grasses on the Colorado Plains.

[131] (see Albert, Rosa Maria)

**Cummins, Linda Scott and Kathy Fussman (both, Paleo Research Labs)**

[111] **Corns and Other Phytoliths Toward Anasazi Diets at Ship House, Mesa Verde**

Examination of 12 corns from the Basketmaker III occupation of Ship House at Mesa Verde for pollen, phytoliths, macrofossil, and faunal remains has yielded excellent information concerning diet. Phytooliths recovered not only foods consumed, but to the interpretation of food harvesting and storage patterns. Data recovered through examination of these diverse data bases indicate the importance of beans, as well as other agricultural produce. Anasazi cuisine was not limited to corn, beans, squash, and vegetables. A rich diversity of native foods consumed is evident through examination of micro-botanic, macro-botanic, and faunal remains.

**Cumaar, Geoffrey (Andover Foundation for Archaeological Research), Richard S. MacNeil (Andover Foundation for Archaeological Research), and David Hill (77) In Search of Leap Forward**

[77] Cooperative 1993 fieldwork by Beijing University, the Jiangxi Institute of Archaeology and the Andover Foundation for Archaeological Research investigated sites within The People’s Republic of China in the southern province of Jiangxi for their potential to yield data concerning the origins of rice agriculture. Preliminary results show that two of the sites investigated have cultural stratigraphy which spans the Neolithic to the late Pleistocene. Site stratigraphy and stratigraphic relationships between the two sites will be discussed as well as preliminary results of various analysis which are helping to assemble a chronology coeval with the development of rice agriculture.

**Curet, L. Antonio (Gettysburg)**

[34] **Technological Changes in Prehistoric Ceramics from Puerto Rico: A Preliminary Study**

Traditionally, studies on Caribbean pottery have focused on changes in style and decoration while
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changes in ceramic technology have received little attention. This work presents the results of a preliminary project on the study of changes in pottery technology to overcome some aspects of this deficiency. Collections from La Proyecta Arqueológica del Valle de Manabu, Puerto Rico, representing all periods of the Ceramic age, and several physical properties including original firing temperature, porosity, and density, were used. The results show that some of the periods were characterized by technological changes. Preliminary interpretations of these changes are discussed.

Curtin, Edward V. (Skidmore) [113] Archaeology as Natural History
Archaeology is an art rather than an experimental science, a stance it shares fundamentally with paleontology, geology and biology. The methodological challenges of historical sciences include conceptualizing the past and discovering order in variability chaotic data. Recent re-considerations of paleontology clarify challenges shared with archaeology. As archaeology abandons a theory of gradual and progressive change, it must define and address issues of epistemic change, incomplete data, inaccurate conventional wisdom, and an unrealistic reliance on the uniformitarian doctrine. Examples of issues in Late Archaic, Middle Woodland and Late Woodland archaeology illustrate reconstructions aided by consideration of archaeology as natural history.

Cogdill, Jon S. (Bureau of Reclamation) [54] Of Partnerships, CRM, and the Hobokam: The Gila River Indian Community and the Bureau of Reclamation's Central Arizona Project
The Bureau of Reclamation has established a cooperative partnership with the Gila River Indian Community (GRC) that will have important consequences for Hobokam and Piman archaeology. Reclamation and the GRC are planning a water delivery system to bring Central Arizona Project water to GRC lands. These lands straddle the Gila River and are known as the 'heartland' of the Hobokam. To collaborate with a massive cultural resource project associated with this development effort, Reclamation is assisting the GRC in establishing its own archaeology program. This program will assist Reclamation in developing research goals and doing survey and mitigation.

Dailin, Bruce H. (Howard), Valerie McCormack (Pittsburgh), and Anthony P. Andrews (South Florida) [130] Canbalum in Context
Investigations at Canbalum reveal it to be the largest of several extraordinarily rich long-distance trading facilities on the Campeche Yucatan Gulf Coast. Unfortunately, Canbalum was subjected to beach erosion, leading to the removal of major collections. The site, its size and richness, are due to Canbalum's participation in coastal-inland trade via canals and long-distance trade routes. It is also near the second largest known site works in Mesoamerica, but the question of Canbalum's control of these salinas remains vexing.

Dalan, Rinita A. (Southern Illinois-Edwardsville): [14] see Sutka, Mikesit

Dulan, Rinita A. and Harold W. Watters, Jr. (both, Southern Illinois-Edwardsville) [14] Environmental Magnetic Techniques as an Aid in Understanding Earthen Archaeological Terrains
Environmental magnetic techniques have been applied to sediments collected from the Cahokia Mounds State Historic Site in southwestern Illinois as an aid in understanding anthropogenic earth-moving activities at this important Mississippian mound center. These techniques, which allow documentation of changes in magnetic minerals, concentration, and grain size, have been used to: 1) determine the original form of earthen mounds; 2) investigate the formation and structure of mounds as well as the integrity of mound deposits; 3) determine the location, extent, and character of culturally modified terrain in out-mound areas; and 4) identify the nature and source of materials used in reclamation and mound-building.

This paper examines and develops the use of a geographic information system (GIS) for conducting intrastruse analyses. The site used in this example is Dei-16 located at Thunder Bay, Ontario, Canada. In the summer of 1993, 1200 square meters were excavated in 50cm x 50cm quadrants. Thousands of artifacts and debitage were recovered and are used to exemplify the means by which a GIS can be used to conduct established and alternative analyses at a large scale.

Dancy, William S. (Ohio State) [123] Beyond Adena-Hopewell: A Phase-less Approach to Middlewestern Prehistory
The mortuary complexes of eastern North America have been studied intensively for over a century and numerous classifications applied to the earthworks, burials, and related phenomena of the Woodland tradition. A number of measurement instruments, e.g., the ones constructed by D. Squire and E. Davis, E. Greenman, W. Webb, and D. Drago, are examined here to determine their utility in formulating and testing hypotheses pertaining to cultural evolution. As expected, none meet the reliability and validity requirements of modern research design. The questions of why this is so and what can be done about it are addressed.

Ceramic data from the current project have proposed that non-cannibalistic behaviors including the execution of witchs may better account for the occurrence of many Anasazi mass inhumations. Some have viewed witch execution as violent social control which itself results from differences among individuals and eliminates competing interest groups. Yet, published literature on Puebloan views about death and death practices indicate a much more complex context for these actions. It is proposed that witch execution may regulate inter- and intra-community tensions and both limit and direct violent action in socially defined ways. Implications for the identification of witch executions in the archaeological record are considered.

Davidson, Dale (Bureau of Land Management) [80] Traditional Cultural Knowledge in Ecosystem Management
Bringing traditional cultural knowledge to the discussion of ecosystem management is a unique contribution archaeologists can make. From this can come the establishment of research domains which are specifically cultural. The Save the Past for the Future conference addressed this issue. This paper presents the results of this part of the workshop. Some significant topics discussed include: Why should those with traditional knowledge share it? What are some relevant questions to be kept in mind when approaching individuals for traditional cultural knowledge? What are the strengths and weaknesses of traditional cultural knowledge? What can we look for as goals when collecting traditional cultural knowledge?

Davis, Hester (Arkansas Archaeological Survey) [44] Public Education and the Teaching of Archaeology
This presentation suggests that the concerns and ethics of public education should play a central role in graduate and undergraduate curricula. Specific recommendations for course structure and content, meant to foster the development of applied perspectives and training, are made.

Davis, Leslie B. (Museum of the Rockies), Stephen A. Aaberg (Aaberg Cultural Resources Consulting), and John W. Fisher, Jr. (Montana State) [116] Paleoindian Hunter-Gatherer Subsistence, Diet Breadth, and Seasonality in Northern Rockies
Subsistence and seasonality data, drawn mainly from the MacHaffie, Indian Creek, and Barton Gulch Paleoindian (11,000 to 7,800 B.P.) sites in southwestern Montana, are reviewed in conjunction with associated technologies, resource potentials, and site selection. This subregional overview illustrates the varied nature of Paleoindian responses to montane valley and fluvial resources and other land use opportunities. An unusually broad array (for Paleoindians) of target species (bison, Bison sp., Chicoeloueti virginiensis, O. hemionus, Ovis canadensis, Canis sp., and gathering; plant species [numerous] and small mammals: Marmota flaviventris, Lepus sp., Sylvilagus sp., Cynomys ludovicianus, Micrurus sp.) is identified.

Davis, R. P. Stephen (North Carolina-Chapel Hill), Vincas P. Steponaitis (North Carolina-Chapel Hill), and Patrick Livingood (North Carolina-Chapel Hill) [14] How to Create and Use an Electronic Site Report on CD-ROM
Recent technological advances make it both feasible and practical to disseminate data from large excavations in digital forms. Here we demonstrate one approach, using data from Fredricks (10/23), an 18th-century Indian village in North Carolina. A comprehensive body of descriptive information, including profiles, tables, text, and color photographs has been digitized and saved on CD-ROM. Two "front-end" programs have been written to allow easy and intuitive access to these data. One is designed for those who wish to use the CD as a site report. Another is a teaching tool that enables students digitally to "excavate" the site.

Day, Jane (Denver Museum of Natural History) [44] Public Education and Personalized Decisions: View from the Museum Administrator
This presentation provides a museum administrator's perspective on how effective personalized museum education might be for museum archaeologists who have devoted a considerable portion of their professional activity to public education.
DeBoer, Warren R. (Queens)  [127] The Use of Anthropomorphic Figurines by Chachi Shamas
In a paper published in 1964, Reichel-Dolmatoff proposed an ethnohistoric interpretation of anthropomorphic figurines that are often abundant in archaeological sites of Colombia and Ecuador. It is noted that Chachi shamans make such figurines for use in curing sessions and then unceremoniously discard them, producing over time a figure richly embedded. This paper presents a contrastive case of figurine use by Chachi shamans of Ecuador. Unlike the Chocó case, Chachi figurines are buried architecturally and are often passed on from shamans to apprentices over several generations.

[112] Discussant

Dekin, Albert A. (SUNY-Binghamton) and Mark S. Cassell (SUNY-Binghamton)  [100] Results of the Exxon Valdez Oil Spill Archaeological Damage Assessment
A major component of the Exxon Valdez Oil Spill Archaeological Damage Assessment was the testing and examination of cultural resources guided toward identifying injuries potentially linked to the spill and subsequent clean-up. This paper discusses the form and extent of identified disturbances, their impact upon the integrity and recovery of archaeological data, and the contributions of the study to archaeological research of culture history in the region. The relationship between research and excavation are discussed, and generally support existing perceptions of the environmental and occupational history of the study region and the extent of cultural interaction between culture areas within the region.

Del Campo, Mitz (Minnesota OSHA)  [7] OSHA — Excavation Safety
Focuses on excavation safety using the requirements of OSHA's Code of Federal Regulations, Part 1926, Subpart P — Excavations, as the primary source of information. Employer's and employee's options and responsibilities when under OSHA jurisdiction will be examined.

Della, James A. (Massachusetts)  [34] Space, Race, and Profit: A Comparative Analysis of Colonial Socio-Spatial Processes in 16th-Century Ireland and 19th-Century Jamaica
The colonial experiences of 16th-century Ireland and 19th-century Jamaica are remarkably similar. In each case, significant changes in production resulted in the process of social restructuring. Through an analysis of an ecological and documentary materials collected between 1993 and 1994, this paper considers how the elite classes consciously set about to redefine existing spatial forms as part of the strategy to reinforce their position of social dominance during these two periods of social and economic transition. The paper suggests how the spatial analysis of socio-historical materials can be used to interpret the negotiation of social relations in state-driven societies.

Deller, D. Brian (Glencoe, Ontario): [36] (see Ellis, Christopher)

Demarest, Arthur (Vanderbilt), Claudia Wolley (Vanderbilt), Kim Morgan (Vanderbilt), Nicholai Grube (Universität Bonn), and Hector Escobedo (Vanderbilt)  [52] A Royal Palace at the Moment of the Classic Maya Collapse: Function, History, and Investigative Methodology
Evidence from six excavations, survey, ecology, and monuments of the Petexbatun Regional Archaeological Project have detailed the fall of Classic Maya civilization in the Petexbatun region of Guatemala. Intensification of warfare here led to political disintegration by the early 9th century. New evidence is presented from extensive excavation of the largest royal palace of the Petexbatun capital, Dos Pilas, revealing structure functions, social distance, patron activities, nutrition, and lifeways in its final decade. Correlations with monumental texts allows description of the palace's destruction. We assess alternative cultural/stratigraphic interpretations, theories of the Maya Collapse, and research methodologies.

DeMaria, Elizabeth (California-Los Angeles)  [15] Regional Politics, Labor, and Power in the Calchaqui Valley, Northwestern Argentina
The emergence of chiefdoms in the Calchaqui Valley is visible in regional centers with public plazas, mounds, and large residential populations. In this paper, I evaluate the role of labor control and cooperation in the formation of chiefdoms, and paths to lost and forgotten. Fictional archaeologists, it is argued, are not so much scientists as excavators of the unconscious; catalysts for the metaphor of unburying. Quotes from the archaeological literature highlight the disparity and concordance between fiction's romantic conception of the archaeologist with our view of ourselves. The paper concludes by examining creative writing authored by archaeologists and its role in bridging the gap between the popular and the academic.

Dennig, Jean-Paul (Université de Paris)  [27] Power and Resistance to Power in European Iron Age
The European Iron Age is usually considered to be the period which witnessed the progressive emergence of state societies. However, this emergence is much slower, and also much less regular than in the Near East. Periods of strong social hierarchisation in settlements and cemeteries are followed by more homogenous "proto-citizen" periods. Beyond environmental and economic constraints, one may point to the hypothesis that there are various dynamics, both social and political, which resist this emergence. But even then, one has to explain, in socio-social terms, what drives this "striving towards inequality."

Dennig, Jean-Paul (Université de Paris) and Michael J. Ilett (Université de Paris I)  [81] The Asine Valley Long-Term Project and the Evolution of Social Systems in Northern Greece
The Asine Valley, in the north of France, has for 20 years been the object of an archaeological salvage program which covers about 300 sq km. More than a thousand sites have been identified, from the Paleolithic, but above all from the Neolithic to the Middle Ages. Excavations and surveys have been conducted at about 200 sites. This micro-region is now one of the best-known in France for most of the periods concerned. We will here present the main results in terms of the evolution of social systems, of varying complexity. We will also try to evaluate the overall strategy, a constant relationship between archaeological material and methodological problems, between the scientific aims and the constraints of excavation operations which set the priorities and provide the money.

Macrobotanical analysis of over 400 flotation samples from Classic period archaeological sites indicates a broad-based agricultural/gathering subsistence system that exploited all elevations within the basin. Maize and amaranth are the most ubiquitous of cultivated plants. Other legumes include agave, beans, and squash. Irrigation agriculture was restricted by narrow terraces, canal systems that were subject to flood damage, and a streamflow regime that made a second crop significantly risky. To offset these problems the people took advantage of resources in the desert/mountain ecotonal area provided by the flanks of the Tonto Basin.

Desloges, Jonathan R. (Toronto) and Ian J. Walker  [71] Fluvial Geomorphic Processes and Archaeological Site Integrity at Grand Banks Site, Grand River, Ontario
Occupations at the Grand Banks site are found within buried paleosols on an extensive flood plain. Alluvial stratigraphy and surface morphology indicate that the site sits atop a 700 m long lateral bar. Processes accounting for the bar construction are outlined. Historical maps and repeated airphoto surveys demonstrate that processes common to many meandering rivers of this type are limited, thus providing for minimal reworking and good site preservation. Initial assessment of valley and river morphology coupled with the application of simple geometric models aid greatly in sites with high preservation potential and minimal disturbance by flood erosion.

Dessler, D. J.  [58] The Relationship Between Ceramic Production and Socio-Political Reconfiguration in Fourth Millennium Palestine
Changes in production of ceramics are often related to larger social, political, and economic changes within a society. The relationship between ceramic production and sociopolitical developments is the focus of this study. This paper explores the relationship between the ceramic industry and the reconfiguration of elite politics during the transitional Terminal Chalcolithic to Early Bronze I of the Southern Levant. At this time period is most frequently organized at either the household or workshop level. It is in the organization of craft production that nascent elites may begin to articulate themselves in an otherwise undifferentiated sociopolitical landscape.
level political changes rather than shifting environmental/subsistence conditions, and 2) identifying settlement patterns associated with hierarchical land-tenure systems.

Dirrigl, Frank J. (Connecticut) [68] Roundness and Weathering: Prospective Qualitative Measures for the Zooarchaeological Analysis of Plowed, Floodplain Sites

Taphonomic biases acting upon archaeological sites from the northeastern United States demand that zooarchaeologists, consider site formation processes and the differential survivorship and representation of faunal remains. This is particularly important when studying a site located in a floodplain which has been subjected to agricultural plowing and levelling. Recent excavations and research at the Goldkist site in East Greenbush, New York, provided the opportunity to examine the effects of stratigraphic masking and the deposition of possible "high soil" artifact complexes. Using NISP for fragmented bone and shell as a quantitative measure and specimen roundness and weathering as qualitative measures, I will demonstrate the utility of these measures as indicators of turberation, sorting, and movement through time.

Dixon, E. James (Denver Museum of Natural History) [105] Paleoindian Archaeology at the Denver Museum of Natural History: History and Current Programs


Dobbs, Clark A. (Institute for Minnesota Archaeology) and George R. Holley (Southern Illinois University-Edwardsville) [18] Reclaiming Silvanere: Implications of 12th-Century Mississippians-like Occupation of the Red Willow Locality

As one of the earliest sites, the Silvanere focus of southeastern Minnesota represented a local variant of Middle Mississippian culture. In recent years, the definition and interpretation of Silvanere has become obscured in the broader debate about the evolution of Mississippian and Oneota cultures. Recent archaeological and high-resolution radiocarbon dates from the Bryan site provides a basis for reassessing the confounding hybrid perspective of Silvanere. This paper reviews the parallels between Silvanere and Cahokia ceramics and redfines Silvanere as a phase contemporary with the Stirling phase (Cahokia) dating late in the 12th century A.D. (calibrated chronology).

Dobres, Marcia-Anne (California-Berkeley) [124] Of Paradigms Lost and Found: Archaeology and Prehistoric Technology, Sleepwalking Through the Past

Ample studies have demonstrated the extent to which "world lives" and cultural logic contribute to the structure of technological systems. But how has archaeology's "worldview" structured its object matter—prehistoric technology? This presentation examines a century of archaeological research on the Upper Paleolithic, and identifies the operative paradigms inspiring various explanatory models over time. Contrary to popular opinion, 19th century, early 20th century, and contemporary approaches share much in common—a perspective Winner calls "technological somnambulism." Evolutionary, Culture History, and Adaptationist paradigms have each divorced artifact from artifact, creating anachronistic accounts that could only make sense out of time.

Dockell, Helen Danzeiger and Barry W. Baker (both, Texas A&M) [125] Projectile Point Wounds from the Southern Great Plains and the Western Gulf Coastal Plains of Texas

A synthesis of projectile point wound data from the Southern Great Plains and the Western Gulf Coastal Plain of Texas supports previous argument for endemic prehistoric violence in North America. At least 17 Late Archaic and Late Prehistoric sites in Texas, representing a minimum of 25 individuals, evidence prehistoric violence. Adult males dominate the sample, though some females are represented. On the Southern Plains of Texas, these sites cluster along the margins of the Edwards Plateau, while sites on the Western Gulf Coastal Plain form a second inland cluster in the same way, suggesting a pattern of conflict and raiding resulting from territorial disputes have been proposed as the cause of this regional violence.
Dockall, John E. (Texas A & M) [92] Minibres Valley Formative Period Projectile Point Manufacturing Technology and Temporal Style Change

Technological and metric analyses of Minibres lithic assemblages have documented a specific production technique for arrowpoint manufacture. Spatial-temporal changes in point-style morphology from about 350 A.D. to 1130 A.D. are revealed even though the method of manufacture remains somewhat unprecedented. Arrowpoint style changes have little apparent relationship to specific technological assisted hunting practices but can be interpreted within a broader theoretical framework of social contact between adjacent groups in the Minibres valley and beyond.

[30] (see Gardiner, Karen M.)

Doelle, William H. (Desert Archaeology), and Tersius Majewski (Statistical Research) [74] Careers in Archaeology: Planning for Future Opportunities

Career opportunities in archaeology are vastly different than they were one or two decades ago. Academic-, government-, and private-sector jobs are in constant flux, which means that yesterday's information may be obsolete tomorrow. Those working toward future employment in archaeology need a firm basis for planning a career path. Information is needed as well as a context within which to make sense of that information.

Doershuk, John F. [57] (see Bergman, Christopher A.)

Dolan, Barbara W. (Bishop Museum) [60] From Ruling Chiefs to the State of Hawaii: 500 years of Habitation, Subsistence, and Culture Change in Kāne‘ohe, O‘ahu

From A.D. 1450-1580, the ocean, forests, and terraced fields planted in taro provided sustenance for the native Hawaiians of Kāne‘ohe. Between the mid-19th century and the present, as immigrants from Asia and the United States arrived in Hawai‘i, production of rice, Chinese taro, sugar cane, pineapple, and banana dominate Kāne‘ohe’s commercial economy. From 1990-1992, during archaeological monitoring of highway construction and excavation of subaqueous Bishop Museum archaeologists recovered 1,686 indigenous artifacts from Site 50-07-G-152. Subsequent use of edgewear, residue, and lithic sourcing analyses, together with radiocarbon analysis, has strengthened our understanding of pre-contact activities in the area.

Dominguez, Steve (New Mexico) [42] (see Penman, Shawn L.)

Donahue, Randolph E. (University of Bradford), Daniela B. Burroni (Università di Siena, Italy), and Chris O. Hunt (University of Huddersfield, England) [76] The Transition to Agriculture in Peninsular India

The transition to agriculture in India has been largely explained as a demographic process of population replacement. New research indicates that the adaptation to a forest economy included a variety of socioeconomic changes permitting hunter-gatherers to adopt some "Neolithic" resources and technology. During a period lasting perhaps 500 years, hunter-gatherers gradually became more dependent on food production. There is no need to suggest, nor evidence of, population replacement of the hunter-gatherers by agricultural colonists for most of the Italian peninsula.

Donges, Kurt (The Hopi Tribe) and Michael Yeatts [42] The Kawaika'a and Awatovi Mapping Project

Kawaika'a and Awatovi are large PIV ancestral Hopi villages located on the Hopi Indian Reservation in north-central Arizona. Both of these sites are estimated to be in excess of 5,000 rooms and probably represent the largest pueblos in the Southwest. Awatovi was partially mapped in the mid-1930s and Kawaika'a was last mapped in the late 1800s. Recently, both sites have been the subject of pothunters. Utilizing a total station and global positioning system to generate precise maps of these sites, the Cultural Preservation Office of the Hopi Tribe is initiating a project which integrates protection, management, and archaeological research.

Donahue, James A. (South Dakota Historical Society) [79] Environmental and Settlement Pattern Implications of Late Pleistocene/Early Holocene Cumulus Paleo-Mollusks in Loess Mantled Landscapes of the Northwestern Plains

Excavations at three sites in western South Dakota documented soil-forming events which occurred from 1,890 years B.P. to 10,000 years B.P. Mollusk colored soils formed in loesses which was deposited in a predictable fashion on the lee sides of hills, bluffs, and ancient terraces. Where undulating bedrock surfaces or basins were present, these depressions acted as sediment traps in which cumulus mollusks formed. These shallow basin micro-environments were utilized by Paleoindian bands as camping/processing stations. These localities were buried by increased colluvial/sedimentation rates which occurred after 10,000 years ago.

Donato, Christopher (Massachusetts) [100] Assessing Complexity on Kodiak Island, Alaska: A Different Type of Eskimo

The Koniag of Kodiak Island have been traditionally categorized among anthropologists as a subgroup of the Yupik Eskimo language family. This characterization has also held with regards to cultural, ceremonial forms, and social organization. However, recent archaeological and ethnohistorical data indicates that the Konig differ from other Yupik peoples in many ways. Data on population density, house forms, and ceremonial culture are used to reassess the sociopolitical organization of traditional Konig society. Reasons for the development of this level of complexity are discussed, as are the resulting implications for the general characterization of Eskimo peoples among the broader anthropological community.

Doelittle, William E. (Texas-Austin) [92] Domesticated Landscapes: Environmental Factors and Human Agency in Aboriginal North American Agriculture

Agriculture can be envisioned as the domestication of landscapes, involving plants, landforms (including soil), and climate. Its development results in natural vegetation being replaced with crops, slopes being leveled, drylands being irrigated, wetlands being drained, and extreme temperatures being mitigated, among other things. A matrix of the natural environments of North America is outlined. It is then superimposed with a matrix of native agricultural practices. Insights are drawn from regional and local patterns of landscape transformation.

Dore, Christopher D. (University of Nebraska State Museum) [130] Behavior and the Built Environment in a Yucatecan Village

While the remains of the prehistoric built environment in northern Yucatan are easily accessible to archaeologists, the interpretative tools that exist for understanding how variability in the built environment relates to and impacts community scale behavioral organization are much more illusive. This paper presents results from the Xcukum Ethnoarchaeological Project, which focuses on building links between settlement and community in a Yucatecan village. The paper gives background on the and discusses new findings that contribute to community building variability in this modern Yucatecan village. It concludes with a discussion of how this new knowledge can be used to increase our understanding of prehistoric Maya community organization in northern Yucatan.

Dorschow, Wetherbee (New Mexico) [115] Issues of Prehistoric Mobility and Technology on the Southern Park Plateau of Northeastern New Mexico

This paper investigates issues of prehistoric mobility from excavation-derived lithic assemblages of 42 prehistoric sites on the Southern Park plateau of northeastern New Mexico. First, diversity measurements of raw material type and artifact type richness (bivariate regression) and evenness (Shannon-Weaver statistic) are employed. Second, statistical analyses (chi-square and adjusted residual) of expedient to formal chipped stone tool ratios are conducted. These procedures are applied independently to cultural/temporal period and inferred use type groupings of the site sample. The study identifies significant correlations between local abundance of quality lithic resources and relatively continuous change through time.

Douglass, John G. (Pittsburgh) and K. Anne Pyburn (Indiana) [90] Raised and Channelized Agricultural Fields in Western Lagoa, Northern Belize

Survey and subsurface testing of the southern portion of Western Lagoa, northern Belize, has revealed extensive raised and channelized agricultural fields, as well as initial indications of a complex water management system. Adjacent to the Maya site Chau Hix, differential forms of agricultural fields may indicate a system of intensive production.

Dowd, Anne S. (Brown), Anthony Areni (Colgate), and Ramón Carrasco (Instituto Nacional de Antropología e Historia) [72] Solar Observations or Alegory? An Example of a Group E Complex from Calakmul

Solar observations at Mayan site complexes are often interpreted as a form of calendrical or divinatory ritual. The Group E complex at the Maya site of Calakmul, Campeche, Mexico, has recently been excavated by members of the Proyecto Arqueologico de la Bosquez Calakmul. New architectural data exist to evaluate this group's ability for observing solstices and equinoxes. While the overall orientation of Structures 4a and 4b align with the setting sun during the solstice points, despite the break in the building's floor plan symmetry this represents. Also, archaeological evidence for the function of this complex will be presented and discussed.

Dreiss, Meredith L. (TARI, Texas-Austin) [20] Shell Artifacts at the Mitchell Ridge Site, Galveston Island, Texas

Marine shell beads and ornaments were recovered as necklaces, bracelets, waist bands, and head-
bands from mortuary features at the Mitchell Ridge Site, Galveston Island, Texas. The long chronological sequence of burial features, with inclusions of shell artifacts (from Late Archaic to Early Historic) is unique for the Texas coast. Evolution of marine shell use in mortuary ritual over a period of about 1500 years at the site shows a change in bead form and function with socioeconomic implications.

Drennan, Robert D. (Pittsburgh): [86] Discusant

Driscoll, Stephen T. (The University, Glasgow)

[126] Banking a Nation: Ethnic Accommodation in the Creation of Scotland in the Early Middle Ages

Few places with an ethnic mix as complex as Scotland’s emerged from the middle ages with such a coherent political entity. This paper examines the processes by which North Britain was forged into an early European state. In the Early Middle Ages (400-1100 A.D.) the Scottish region contained five different peoples speaking distinct languages with cultural links to Ireland, northwest continental Europe, Scandinavia, and, of course, southern Britain. By the end of that period, the Scottish kingdom had a sufficiently well-defined national self-consciousness to fend off repeated attempts at conquest by their larger southern neighbor, England.

Drinkell, Boyce (Alabama) and Paul Goldberg (Texas)

[87] The Geoarchaeology of Dust Cave

Located near Florence, Alabama, Dust Cave (1LJ5496) was the locus of prehistoric occupation by late Paleoindian times (10,500 B.P.). Use of the cave continued until 5200 B.P. when deposits filled the entrance to an extent which made continued use unattractive. Recent excavations (1989-1994) reveal five superimposed, isolable, and well-preserved archaeological components within the 5 m thick cave deposit. Evidence from the cave and surrounding terrain suggests that Dust Cave was choked with Tennessee River sediments during the late Pleistocene, but was flushed out and available for use by about 10,500 B.P. This evidence implies that the late Pleistocene landscape in this area of the Tennessee River was as much as 8 m higher and considerably different from today.

Driver, Jon (Simon Fraser): [38] Participant

Duerksen, Ken: [57] (see Bergman, Christopher A.)

Duff, Andrew I. (Arizona State)

[107] Excavations at Rattlesnake Point Pueblo on the Upper Little Colorado River

Recent research in the Upper Little Colorado River region provides new insights into late Pueblo IV (A.D. 1325-1400) settlement organization. Excavations at Rattlesnake Point Pueblo have revealed in-use assemblages sealed by a catastrophic fire. This unique preservation affords the opportunity to examine intra-site activity organization, assemblage composition, depositional dynamics, and the extent of regional exchange. Rattlesnake Point also provides a new window from which to examine the nature of regional interaction with communities in the Silver Creek, Zuni, and Hopi areas.

[111] (see Hohensee, Nancy)

Dunham, Don E. (Oregon): [100] Discusant

Duncan, Richard B. and Kristen Beckman (both, Skelly & Loy)

[14] A GIS Predictive Model for Prehistoric Archaeological Sites

Skelly and Loy, Inc. of Monroeville, Pennsylvania, with the support of the Pennsylvania Turnpike Commission is developing a computer generated Geographic Information Systems (GIS) based predictive model for prehistoric archaeological site locations within southwestern Pennsylvania. The model uses easily available coded and digitized or purchased locational data for various natural and cultural factors within the Monongahela Valley. The combination of statistical analysis and GIS synthesis allows for the predictive evaluation of the relative impacts of ground disturbing activities in a flexible, cost effective and detailed manner. This poster presents an illustration of the results and uses of the GIS model.

Dunne, Michael T.: [47] (see Graber, Robert Botez)

Dunnell, Robert C., Laura Newell-Morris, Barbara J. Carter, and Diana M. Greenlee (all, Washington)

[72] Episodes of Arrested Bone Growth and Sr/Ca Ratios

Strontium/calcium (Sr/Ca) ratios vary with age, diet, and reproduction, but whether they are altered by disease is unknown. We conducted a pilot study to explore the latter association. We located growth arrest lines in femurs from five nonproductive pig-tailed macaques, on a constant diet and

=4.5 years at death. All had experienced G.I. disease with weight loss (5-35%). Sr/Ca ratios (x1000) were calculated, based on electron microprobe analysis at 10 points on each side of an arrest line in femoral cross sections. Marked inter- and intra-individual heterogeneity of Sr/Ca ratios (0.0 to 32) was present.

[10] (see Carter, Barbara J.)

[22] Discussant

Dunning, Nicholas P. (Cincinnati)

[130] Urban and Rural Settlement Systems of the Puca Region, Yucatan, Mexico

Recent research at the university of Maya centers of Xlapché and Sayil has revealed considerable information on the nature of both urban and rural settlement systems in the Puca region. In urban areas, distinct residential and nonresidential areas are evident, with residential areas tied to urban gardens. Rural settlement was also agriculturally focused but appears to have been largely seasonal in nature. These findings have important implications for population reconstructions, both in the Puca region and throughout the Maya Lowlands. Additional evidence on the organization of settlement in the region is provided by a variety of boundary maintenance features.

[13] (see Scarborough, Vernon L.)

[52] (see Rae, David)

Durand, Stephen R. (Eastern New Mexico): [42] (see Kunkel, Kristine M.)

Durst, Jeff (Texas-San Antonio): [13] (see Lohse, Jon C.)

Dye, David H. (Memphis)

[18] Late Mississippian Warfare Iconography in the Central Mississippi Valley

Warfare was a primary component in Mississippian social dynamics. In this paper I examine repaired, engraved, and painted images on ceramic bottles, and to a lesser extent marine shell cups, which point to various forms of Mississippian hostilities. Based on sixteenth and seventeenth century ethnographic documentation, warfare in the Central Mississippi Valley and adjacent areas, was a significant element the political and social maneuvering of commoners and elites.

Earle, Timothy (California-Los Angeles)

[81] Household Archaeology in a Regional Context: The Thy Archaeology Project, Denmark

[The Thy Archaeological Project is an international collaboration of Danish, English, and American researchers investigating long-term changes in the landscape and society of Thy, northwestern Denmark. The project combines various facets: paleoenvironmental reconstruction with pollen cores, acidizing survey of settlements, intensive ploowlow excavations, household excavations, macrofossil recovery, analysis of micro-pollens, and related studies of ceramic remains and lithic assemblages. Taking an eclectic materialist perspective, TAP has developed innovative methods for data recovery and analysis in order to understand the evolution of chiefdom societies during the transition from the Late Neolithic to the Early Bronze Age.

[58] Discussant

Eastman, Michael P. (Northern Arizona): [136] (see Hunter, Andrea A.)

Ebert, James I. (Ebert & Associates)

[100] Modeling Coastal Site Occurrence Within a GIS Framework: The EXXON Valdez Oil Spill Archaeological Damage Assessment

As part of the EXXON Valdez Oil Spill Archaeological Damage Assessment project, a major multidisciplinary study directed by SUNY-Binghamton for the USDA Forest Service, Ebert & Associates, Inc. (Albuquerque, NM) undertook research focusing on modeling the distribution of unknown but potentially affected coastal sites. Site location and coastal databases were merged and analyzed in a geographic information system environment (ArcINFO). Methods, conclusions and their theoretical implications are discussed.

Eckert, Susan L. (Arizona State)

[118] Social Differentiation at Post-Chacoan Great House Sites: A View From the Hinkson Site, New Mexico

Archaeologists have recently become aware that during the post-Chacoan era, aggregated communities arose throughout the Cibola region of the Southwest. Due to their recent identification, little is known about these sites. Analysis of ceramic types associated with independent room blocks at the Hinkson site—an aggregated community surrounding a great house—has facilitated the building of a site chronology, including when the great house was built and abandoned. More importantly, analysis of midden material offers a means of examining differentiation between room blocks, helping us to understand intrasite social organization at the Hinkson site during this period.
Ehrhardt, Kathy and Lawrence A. Conrad (Western Illinois) [45] New Light on the Protohistoric Illini: Evidence from the Illiniwek Village Site, Clark County, Missouri
Archaeological efforts to understand tribal affiliations and social transformations of resident groups in the Illinois Country during the Protohistoric/Early Historic Period have concentrated on the Starved Rock, Illinois, locality. However, as the location of Juliet and Marquette’s encounter with the Illinois in 1673, the Illiniwek Village site, Clark County, Missouri, lies in a critical position for investigating such questions. Western Illinois University’s 1994 investigations at the site define a post-contact Illini material assemblage demonstrate clear linkages between Danner series ceramics and the Illinois, and shed light on native manipulation of French metal trade goods.

Elia, Ricardo J. (Boston) [29] Antiquities Collecting: A Destructive Passion
The international antiquities market is a pure example of the law of supply and demand. Collectors create a demand for archaeological objects and provide, however indirectly, the financing for looting. Most efforts to combat looting have focused on the looters, smugglers and, to a lesser extent, the dealers, with little effect. Collectors, on the other hand, have traditionally been lionized as benefactors of the arts. It is argued that the problem of looting can never be controlled effectively until collecting comes to be regarded by society as an irresponsible and destructive avocation.

Elia, Scott (Colorado) [68] The Role of Insects in Zooarchaeology
Insect fossils are making an important contribution to the reconstruction of both natural and anthropogenic environments associated with archeological sites. Most New World studies cover the last Pleistocene or earliest Holocene, while most Old World studies concern the mid- to late Holocene. In Europe, a diverse synanthropic insect fauna developed in response to the accumulation of organic debris associated with more-or-less sedentary lifestyles from the Bronze Age onward. In contrast to this, New World faunas from the last Pleistocene and early Holocene reflect only natural environments, as Paleoindian hunter-gatherers left very little organic debris on the landscape.

Eldin, Dolores (Instituto de Antropologia-Argentina) [60] Earliest Hunters of the Argentine High Andes
The results of recent archaeological research related to early hunter-gatherers of the Argentine puna (over 3,500 m asl) are presented here. The chronological frame covers the Pleistocene-Holocene transition and the early Holocene. This presentation focuses on the topic of faunal resource exploitation, comparing the new data with what is available so far for this time period and this geographic area. The main taxa present in the archaeological assemblages are camelids, cervids, and rodents, though their relative frequencies vary significantly in different sites. There is no evidence of exploitation of Pleistocene fauna.

Ellick, Carol J. (Statistical Research) [7] The Health and Safety of Archaeology or What You Don’t Know Can Hurt You: Introduction
Although the danger that archaeologists encounter was grossly exaggerated in the Indiana Jones movies, it does exist. Are archaeologists aware of potential occupational hazards? How many are trained in safety procedures or regulations? Archaeological field and laboratory activities can result in the spread of diseases, exposure to toxic materials, or bodily injury. Some well-established and recognized archaeological field practices may be in violation of federal Occupational Safety and Health Administration (OSHA) standards. Procedures can be applied to identify and prevent several health and safety problems in archaeology.

Ellis, Christopher J. (Western Ontario): [87] (see Jackson, Lawrence J.)

Ellis, Christopher J. (Western Ontario) and D. Brian Deller (Glencoe, Ontario) [36] Early Paleoindian Cultural and Adaptive Variability in the Great Lakes/Northeast: A View from Southern Ontario
An overview is presented of the postdated point related occupations of southern Ontario. Although there has been a tendency in Paleoindian studies to homogenize the nature of such occupations at the expense of a concern with variability in the archaeological record, evidence for cultural and adaptive variability over time in southern Ontario and contrasts with time-equivalent occupations in other areas of the Great Lakes/Northeast is highlighted.

Elsom, Mark D. (Center for Desert Archaeology): [62] (see Stark, Miriam)

Emberling, Geoff (Michigan) [58] Producing Ethnicity in Third Millennium Mesopotamia
One of Costin’s (1994) four axes of variation in the organization of craft production is its social context, ranging between attached production of elite goods and independent production of utilitarian goods. However, goods differentiating social groups other than elites, such as ethnic groups, might be produced within distinct production and distribution systems. I propose that goods marking ethnic boundaries of ethnic groups is often selective, its pre-industrial economics, on a small scale with nonmarket distribution. I explore this proposal using Scarlet Ware, a painted ware of third millennium Mesopotamia.

Emerson, Thomas E. (Illinois-Urbana/Champaign) and Douglas G. Jackson (Illinois) [59] Rural Transformation and the Mississippian Political Trajectorv Outside Cahokia
Mississippian rural settlements are often portrayed as a homogeneous, stable population of subsistence farmers, i.e., a slowly evolving, unchanging peasant culture separate from and unaffected by elite machinations within the large temple mound polities. American Bottom investigations have demonstrated that this perspective is erroneous and that dramatic economic, religious, and political transformations mark the rural landscapes. This paper explores possible causes of these transformations.

Endicott, Julie M. (California-Berkeley) [79] Polynesian Women: A Closer Look at Some Stereotypes
Images of Polynesian women as promiscuous, powerless, and degraded were introduced into Western cultures by early explorers and missionaries. Archaeological studies have done nothing to counter these perceptions as they tend to focus on the remains of male activities in the prehistoric island societies. This paper will explore archaeological evidence for women’s roles in East Polynesian societies in late prehistory. This will demonstrate the ways in which images of Polynesian women have been manipulated to serve the purposes of others.

Engelstad, Ericka (California-Berkeley): [79] Discussant

Engwall, Evan C. (Illinois-Urbana/Champaign) [53] The Tabubilcha Phase: Late Formative Chorrera Culture in the Jama River Region, Manabi, Ecuador
This paper presents an overview of the Tabubilcha phase (ca. 1000–500 B.C.), the Jama River variant of the enigmatic Late Formative Ecuadorian culture called Chorrera. Systematic regional survey has located numerous sites containing Tabubilcha phase occupations; stratigraphic excavations were undertaken at two sites at close proximity within the natural environment and regional settlement system. El Moscartal is a small upland site, while Dos Caminos is a large alluvial site. The artifact assemblages, including the diverse ceramics from these sites are compared to each other, as well as to other Chorrera occupations in Ecuador.

Enloe, James G. (Iowa) [60] Readaptation: Changes in Magdalenian Subsistence and Social Organization
Mellars suggests that Magdalenians pioneered the Paris Basin at the end of the Pleistocene in order to maintain exploitation of reindeer and horse in open environments as the glaciers retreated. Magdalenian occupation of the Paris Basin differs, however, from that of the classic sites in the Périgord. There are no large aggregation sites. Sites are small and highly seasonal, suggesting increased mobility. Eliteart is much more poorly represented. These suggest decreased social complexity and changes in subsistence. Data from Pincevent and Verberie are used to evaluate differential site function as it relates to situational adaptation in a new environment.

Erlman, Deborah (California-Los Angeles) [26] Styles of Time: Decorated Ceramics as Chronological Markers
The use of ceramic styles in chronological reconstruction is a basic tool in archaeology. In the Basin of Mexico a variety of black-on-orange ceramics are used to distinguish different periods of development and growth in the Postclassic period. This paper contextualizes the decorative styles of black-on-orange ceramics, considering them in their social and symbolic system of symbolic communication, to evaluate the power of these styles and social and chronologic markers. Ultimately, I argue that both symbolic and functional questions need to be addressed before we can confidently use decorated ceramics as chronological markers.

 Erickson, Clark L. (Pennsylvania) [32] Experimental Approaches to Ancient Agricultural Technology in Amazonia
Large-scale agricultural earthworks attributed to prehispanic farming communities were discovered
in the early 1960s in the tropical lowlands of Bolivia. The fields have been long abandoned and the best means of recovering information on this technology is through archaeology and agricultural experimentation. Recent investigation has used survey, mapping, and excavation of prehistoric raised fields to develop models for the construction of experimental plots. Between 1990 and 1994, fields were constructed in various locations including two indigenous communities. The implications of the experimental results for the understanding of the regional prehistory and contemporary rural development in Amazonia are presented.

Escobedo, Hector (Vanderbilt); [52] (see Demarest, Arthur)

Espenshade, Christopher T. (Brockton & Associates)
[115] An Early Ostionid Vessel Assemblage from Site PO21, Cerrillos River Valley, Puerto Rico
The pottery from an Early Ostionid site, PO21, in the Cerrillos Valley of Puerto Rico was examined to define the vessel assemblage. The materials were derived from midden deposits and a flood-secured living floor. Nine size/form classes were defined in addition to manioc griddles. Functional interpretations are offered, based on morphology, size, and use indicators. The analysis indicates that the wide range of vessel forms and sizes were utilized during the short occupation span of the site. The ceramic data complemented other data sets in suggesting that the site served as a hamlet or small village.

Euler, Robert C.
[35] Anasazi Culture Change and Paleoenvironment in Southeast Utah
Ongoing research centered on John's Canyon, a tributary of the San Juan, tentatively supports the hypothesis of George Gumerman and his colleagues in The Anasazi in a Changing Environment. Preliminary studies indicate a small Basketmaker II population at about 5,000 feet. Pueblo I sites are found mostly at elevations above 7,000 feet. The former tends to correlate with a relatively high efficiency moisture regime and the latter with lower effective moisture. Later, large sites, some with great kivas, were built along more permanent drainages and at lower elevations when water tables were higher.

Evens, J. Bryant (Illinois-Urbana/Champaign)
[59] An Analysis of and Explanation for Cultural Discontinuity in the American Bottom During the Late Archaic-Early Woodland Transition
The cultural transition from the Archaic to the Woodland in mid-America is generally characterized by several significant cultural evolutionary patterns. These patterns include increased sedentism of cultural groups, more specialized food procurement strategies including a greater reliance on cultigens, and the development of more complex sociopolitical organization. In this paper, the concept of a gradual transition is questioned. Archaeological evidence indicates that a major cultural discontinuity occurred between the Late Archaic and Early Woodland periods. A multidimensional model based on sociopolitical, environmental, and economic factors, for what is seemingly a case of "devolution," is proposed.

Eves, Susan Toby (Pennsylvania State); [15] Discussant

Eves, Susan Toby (Pennsylvania State), Jeffrey R. Parsons (Michigan), and Thomas H. Chilton (Iowa)
[26] Aztec Period Ceramics of the Rural Teotihuacan Valley
Ceramics from Postclassic period rural sites in the Teotihuacan Valley (Mexico) include decorated wares such as black-on-orange, which serve as diagnostics for chronological phasing and to delineate spheres of cultural interaction. This paper presents the results of an analysis of the surface collections from Postclassic sites mapped by the Teotihuacan Valley Project, and describes several local settlement systems as they can be defined by ceramic assemblages. Decorated ceramics are also used to address cultural-historical issues, such as the timing and nature of the settlement process in the Valley's rural areas.

Fabech, Charlotte (University of Aarhus)
[128] Political and Religious Centers during the Early Middle Ages in Denmark and Sweden
The settlement pattern in Denmark and Sweden in the Early Middle Ages can be perceived as a network of centers based on various resources and economies, in constant competition and conflict with each other. To find such centers we have to look for the symbols of power and religion, and to understand why some settlements were more important than others perhaps because the seats of rulers and/or social sites it is necessary to understand their place in the cultural landscape.

Falconer, Steven (Arizona State); [58] (see Magnes-Gardiner, Bonnie)
distance and spatial configuration of moves is explained in terms of adaptations to varied environments.

Feiler, Eric (Northern Arizona)  
[120] Temporal Changes in Lithic Technology Based on Evidence from 32DU965A, Knife River Flint Primary Source Area, North Dakota

Prehistoric flintknappers exploited flint-rich deposits at 32DU965A from at least the Early Archaic through the Late Prehistoric time periods. Stratiographic data as well as patination data suggest that flintknappers from earlier time periods concentrated on reducing tabular pieces of Knife River Flint into bifaces. Two moderately patinated blade cores suggest some minor blade production also during earlier time periods. Numerous blade cores as well as other technologically distinctive components from Late Plains Archaic levels indicate blade and morphologically distinctive flake production were important activities during this time period. Bipolar core reduction is limited to the Late Prehistoric period.

Feinman, Gary M. (Wisconsin-Madison)  
[86] The Ancient Ejuata Site and Multi-Craft Production: Implications for Models of Economic Specialization

The Ejuata research documents that select Classic period households practiced several crafts, producing a range of goods (utilitarian and status-related) for diverse spheres of consumption. The domestic context of this craft production is discussed as are the variety of ceramic, shell, and lapidary products that were made. These empirical findings have implications for the Mesoamerican ethnographic model of single-craft villages as well as for more general conceptions of independent/attached specialists and full/part-time craft production.

Feinman, Gary M. and Linda M. Nicholas (both, Wisconsin-Madison)  
[20] Shell Ornament Technologies and Production in Highland Oaxaca

Household-scale manufacture of marine shell ornaments was carried out at the highland Ejutla site (Oaxaca, Mexico) during the Classic period. Excavations in both midden and domestic contexts indicate that a wide range of technologies was employed on a diversity of shell raw materials to produce a variety of ornaments (including beads, pendants, and plaques). Preliminary studies of marine shell assemblages from elsewhere in highland Oaxaca indicates that while some of these shell-working technologies and ornamental products have a long history in the region, others may date to later in the Classic period.

Fickes, Ema (York)  
[88] Bones in the Closet: A Look at the Relationship Between Skeletal Remains and Gender in Maya Prehistory

The results of analysis and comparison of ancient Maya burials of men, women, and children from the sites of Altun Ha and Lamanai in Belize, Central America are summarized. Burial position, associated artifacts, and skeletal trauma are examined in terms of what they can tell us about the position and status of women in these Maya communities. In addition, the implications for method and theory of gender relations will be explored.

Feldman, Robert (Field Museum of Natural History): [99] Discussant

Ferguson, Josalyn  
[37] The Little People: A Discussion of Dwarfs Among the Pre-Columbian Maya.

The images of dwarfs appear on various mediums in Maya art, from ceramic vessels to carved stela. While the presence of dwarfs has been recognized by scholars and antiquarians alike, little is known about them or their roles within pre-Columbian Maya society. While articles focusing on dwarfs have been written, the current status of the database on dwarfs among the Maya is lacking. The intention of this paper is to bring together the archaeological evidence with some of the theories on Maya dwarfs, while presenting some of my own ideas on their roles within society.

Ferguson, T. J. (Institute of the North American West): [85] (see Mills, Barbara J.)

Ferring, Reid (North Texas)  
[9] Subsistence and Mobility Patterns at the Aubrey Clovis Site, Texas

Abundant faunal remains from both natural and cultural contexts indicate procurement and processing of a wide variety of resources, ranging from bison and deer to small game, turtles and fish. A possible mammoth butchering locus is currently being investigated. Spatial patterning of faunal remains, artifacts and hearths within the 250 m long site indicate widely spaced procurement/processing and camping loci associated with a spring, a pond and the Trinity River paleochannel. Artifact assemblages indicate long-distance raw material procurement, final stages of tool manufacture and intense tool curation. Overall, a pattern of high mobility and specialized foraging activities in a dry prairie environment is indicated.

Field, John (Western Washington)  
[95] Late Quaternary Climatic Change in Wadi Ziqlab, Jordan

Alluvial and colluvial deposits exposed near Tabqaq al-Banâ, a site in Wadi Ziqlab, provide palaeoclimatic evidence for an upland region of northern Jordan. Colluvial deposition during the Kebaban (ca. 14,000 B.P.) and again in the Late Neolithic (ca. 6500 B.P.) provide insight into the creation during moister periods of less intense rainfall, when sediment derived from the adjacent hillslopes was not transported downstream. Erosion and alluviation some time between the Kebaban and Neolithic occupations are interpreted as indicating more humid conditions and more intense rainfall, with flash floods capable of transporting sediments to the Jordan Valley.

Fitch, Elena (Central Connecticut State)  
[113] Critical Archaeology and the Deep Past: A View from the Bottom of the Pit

Critical archaeology’s illumination of social relations in the past founders on its ability to bridge the gap between theory and data. Nowhere is this lack of consensus about appropriate, adequate and sensitive methods more evident than in analysis of the deep past. A social model of hunter-gatherer use of space in the third millennium B.P. in southern New England provides an opportunity to examine strengths and weaknesses of a critical approach. Just as we cannot discuss method in the absence of theory, neither can we move the process of theory-building forward in the absence of method.

Finger, Terry A. (Minnesota)  
[27] New Approaches to Honestones from Viking Age Sites

This paper will present my research to date concerning investigations made into the honestones remains which have been found on sites within Viking Age Scandinavian colonies of the North Atlantic. It will not be focusing on the petrological properties of the artifacts, but examining them more in their social and cultural contexts, and possibly even exploring their ritual functions. The types of sites from which I have taken honestone examples are varied and intended to provide a broad base for discussion of the numerous types of settlements which existed in the North Atlantic Scandinavian colonies of the Viking Age and their economic connections to the Scandinavian homelands.

Fish, T. Michael (Arizona Department of Health Services)  
[7] Infectious, Venemous, and Chronic Diseases and the Risks to Archaeologists

Current archaeology has substantially increased field opportunities for archaeologists in the United States. While often viewed as an economic "boom" for the profession, increased fieldwork also means field crews are at increased risk to a variety of illnesses. These include hantavirus disease, plague, malaria, malnoma, carpel-tunnel syndrome, and other conditions that are the focus of new or revised research due to their recent emergence or resurgence in the United States. Because many of these conditions can be debilitating or even fatal, archaeologists need to become better acquainted with potential disease risks associated with their profession.

Finney, Fred A. (Iowa): [45] (see Lentsik, Stephen C.)

Fischer, Anders (Forest and Nature Agency, Denmark)  
[117] The Introduction of Agriculture in Scandinavia—The Importance of Long Distance Exchange Systems

In southern Scandinavia the basic material culture demonstrates a cultural continuum through the period ca. 4100 to 3650 B.C. (cal.) when agriculture was introduced. This is exemplified through a sequence of settlement assemblages from Amosuen, Denmark. Cereals, cattle and agricultural knowledge may have been obtained through the exchange systems in prestige items being active prior to and during the innovative period. An example of this are the Danish shaft hole axes which were traded over most of Europe. The domesticates may also have been introduced for economic reasons—e.g., cereals for brewing of beer to be served at social special/social events.

Fish, Paul Robert and Suzanne K. Fish (both, Arizona)  
[35] Climate, Culture, and Agricultural Intensification in the Southwest

For the prehistoric cultivators of the Southwest, the relationship between climate and culture was mediated through the various stages of agricultural production. In the archaeological literature, this relationship is modeled primarily as the effects of climatic variability on annual productive success or the ability to implement particular agricultural techniques. Culture and social dimensions of the relationship have been less fully explored. We wish to examine the role of social organization and population size on agricultural expansion, elaboration, and intensification, including instances of
irrigation, productive specialization, and diversification that incorporated techniques too individually risky for households or small groups of farmers.

**Fish, Suzanne K.** (Arizona)

[93] The Social and Economic Correlates of Hobokam Agave Cultivation

Agave has recently been recognized as a major crop among the Hobokam of southern Arizona. This paper presents the results of two seasons of archaeological survey with 15 Hobokam sites. Results indicate that agave was an important component of the diet and that the Hobokam economy was more complex than previously thought. The survey was conducted in the eastern part of the state, including the Apache-Sitgreaves National Forest and the Salt River Valley. Results indicate that agave was an important component of the diet and that the Hobokam economy was more complex than previously thought. The survey was conducted in the eastern part of the state, including the Apache-Sitgreaves National Forest and the Salt River Valley.

[35] (see Fish, Paul Robert)

**Fiskel, Richard** (Office of the State Archaeologist of Iowa)

[120] Savanna Excavations at the Dixon Oneota Village (18W38), Woodbury County, Iowa

Salvage excavations were conducted in 1994 by the Office of the State Archaeologist of Iowa at the Dixon site (18W38) in northwest Iowa. This site is a 19-hectare village that dates to A.D. 1000. The Little Sioux River had eroded a 130-m-long bluff line through the village, exposing 110-140 storage pits and several house basins. The landowner of the site estimated that over 1,500 m² of the village were destroyed by 1993 floods. In 1994, the OSU conducted salvage excavations along that segment of the Little Sioux impacting the village area. Portions of 40 pits and three houses were excavated during these investigations.

[45] (see Lomask, Stephen C.)

**Fisher, Christopher T.** (Wisconsin-Madison)

[21] Excavations and State Formation in the Lake Pecatonca Basin

The Epipaleo/Postpaleol transition in central Michoacán was a period of rapid political change resulting in the formation of the first multiple independent polities, culminating with the Late Postclassical Tarascan state. Through recent archaeological investigations in the Lake Pecatonca Basin, Michoacán, Mexico, large tracts of rectilinear field patterns have been discovered. Using a variety of paleo-climatic data, these features can be attributed to a period of climatic deterioration between A.D. 700-1000, within this critical transition. This paper explores the role of these intensification features may have played in the dynamic environmental, social, economic, and political landscape that characterized the Lake Pecatonca Basin prior to state formation.

**Fisher, Daniel C.** (Michigan)

[36] Ceramics of the lasting moments in the Eastern Great Lakes Region, USA

Numerous bison sites in the Great Lakes region share taphonomic features suggesting a common mode of site formation. Certain features, including size of projectile points, presence of modification at muscle/tendon attachment sites, indicate considerable processing by humans. Season of death, occurrence in late Pleistocene sites, and association with human burials are also apparent. These suggest that these represent overwinter, subadults, and the Middle Woodland period. The Little Sioux River area is considered to have a substantial population density of Late Woodland period. Other species (e.g., mammoth, moose) show similar patterns and invite comparisons.

[105] Season of Death of the Den Mottoes

The season of death of the Den Mottoes is significant to the overall picture of prehistoric hunter-gatherer societies. The study of seasonal death patterns may help to understand the relationship between humans and the environment. The study of seasonal death patterns may help to understand the relationship between humans and the environment. The study of seasonal death patterns may help to understand the relationship between humans and the environment. The study of seasonal death patterns may help to understand the relationship between humans and the environment. The study of seasonal death patterns may help to understand the relationship between humans and the environment.
Fowler, William R. and Inez Verhagen (both, Vanderbilt)

[125] The Center at the Periphery: The Archaeology of Colonialism in Los Izalcos, El Salvador
The archaeological region of Los Izalcos, El Salvador, is the principal caoba-producing area of early colonial Guatemala, experienced the impact of imperialism to a degree seldom seen in other peripheries of the Spanish empire. The caoba industry attracted Spanish gentry, merchants, and priests who, with their African slaves, interacted culturally and biologically with native Pipil producers. Their complex interrelationships are known through massive historical documentation which shows the messy and opportunistic nature of the Pipils. Recent archaeological research reveals a different perspective on native responses to imperial domination, however, and indicates active participation by the Izalcos Pipils in the sixteenth-century European world system.

Fox, John Gerard (Peabody Museum)

[50] Feasts, Ballgames, and Ritual Process in the Americas
The Mexoamerican ballgame is often viewed as a unique and isolated form of ritual action detached from its social context. Empirical evidence from ballcourt excavations and iconography, I argue, suggests the Mexoamerican ballgame was but one component of a larger ritual cycle which included the production and consumption of food in community feasts. Expanding beyond Mexoamerica, I explore the symbolic linkages and community identities these rituals serve to shape and maintain. I also focus on the roles and transformations of ballgames in a number of contemporary and historical cultural contexts. These rituals serve to shape community identity and social difference.

Francis, Julie (Wyoming Transportation Department) and Mary Lou Larson (Wyoming)

The Numic expansion hypothesis has been used to explain the appearance of certain types of archaeological remains across the Great Basin and into the northwestern Plains during the Late Prehistoric period. This hypothesis will be examined through an analysis of spatial and temporal distributions of materials thought to reflect participation in different social-cultural and ideological systems and the areas explored by prehistoric populations. Through analysis of rock art and chipped stone raw materials, we investigate prehistoric boundary conditions and their implications for ethnicity and cultural dynamics during the Late Prehistoric period.

Franco, Nora Viviana (Programa de Estudios Prehistóricos-CONICET); [116] (see Borrello, Luis Alberto)

Franco, Nora Viviana and Luis Alberto Borrello (both, Programa de Estudios Prehistóricos-CONICET)

[22] Bifaces, Guanacos, and Other Resources: The Evolution of Patagonian Populations
A discussion of archaeological expectations for human populations from different regions of southern Patagonia was derived from evolutionary ecology. A distributional approach was used in order to collect the required faunal and faunal samples. In addition, excavations in selected places contributed temporal samples spanning the last 4,000 radiocarbon years. The analysis permitted the assessment of the importance of changes in both design and frequencies of artifacts in the evolution of patagonian populations. The results from the Lago Argentino study are presented, as well as a general comparison with Ultima Esperanza.

Franke, Judith A. (Illinois State Museum)

[58] Pottery Craft Specialization at Old Babylonian Nippur, Iraq: Evidence for Standardization of Type, Ware, and Capacity
A large, well-documented assemblage of pottery from a 60-year-occupancy of a residential area provides a body of data that reflects a corpus of standard in-use types, standard proportions of types in use, a dichotomy of wares in relation to function, and vessel capacities that fit well within a sexagesimal system of measurement, suggesting that the Mesopotamian potter produced vessels in conformity with the standard measurement system. Some variations in details of morphology, however, may reflect the personal style of individual potters.

Franklin, Maria (California-Berkeley)

[79] Power to the People: African American Archaeology and Another Case of Us Against Them
Should only blacks dig African American sites? What obligation does an archaeologist have to involve the descendents of enslaved Africans in his research? The author is one of many familiar with the history of African American archaeology, having spent years investigating the impacts of the study of historically oppressed groups by the white elite. Now many historical archaeologists may find themselves being held accountable to black communities, as the New York African burial ground excavation has demonstrated. This paper surveys the arguments made by blacks and by archaeologists regarding professional responsibility and the legitimacy of claims to the remains of African American sites.

Fredlund, Glen (Wisconsin-Milwaukee)

[131] Bison Teeth, Phylothlithe, and Climate Change in the Great Plains
Analysis of grass phyolith lithologies from archaelogical bison tooth sites suggests a means for testing hypotheses relating to climate change, bison ecology, and human adaptation on the Great Plains. Modern phyolith data are used to test several of the assumptions which underlie the phytolith application and to evaluate phytolith assemblages from several Paleoindian sites. The relationships among bison tooth phytolith assemblages, bison diet, and grassland composition are defined using modern teeth, composite site samples, and modern soil samples from four modern free-ranging bison herds.

Freeman, Andrea K. L. (Arizona)

[67] We're Not In Kansas Anymore: The Search for a Yellow Brick Road of Human Entry Into and Settlement of Eastern North America
At the same time that Clovis people entered eastern North America, the ice age was experiencing its last gasp of regional cooling and ice-margine fluctuations. Geomorphic changes during this period both impeded and facilitated the human movement throughout eastern North America. The geographic and sedimentary traces of these geomorphic changes provide spatial and temporal boundaries for human occupation of the region, and provides clues to human settlement and use of this unoccupied landscape. This paper explores the geographic changes which took place during the last Pleistocene and early Holocene, their preserved effects, and their relationship to human settlement of the region.

Freidel, David A. (Southern Methodist)

[94] Discussant

Freidel, David A. (Southern Methodist), Charles Sahler (Southern Methodist), and Traci Arden (Yale)

[144] Xayaxa: An Early Royal Capital in the North
Xayaxa is a large site south of Chicken Itza. Research over the last three seasons confirms the status of Xayaxa as a seat of a royal government during the Early Classic period. The architecture and territorial properties of Xayaxa and similar sites in the Usumacinta valley are the same as those used by contemporary rulers in the southern highlands. Salient features documenting kingship at Xayaxa include the contents of two royal tombs and related architectural monuments. We review the implications of these discoveries for models of the origins and development of Maya government institutions.

Freder, Anna Corinne (Ohio)

[61] Reconstructing Complex Site Stratigraphy: The Harris Matrix and Obsidian Hydration Dating
Reconstructing site chronology is a complex process which involves the analysis of multilines of data. Obsidian hydration dating, when employed as either a relative or chronometric technique, has great potential as a chronological tool particularly when combined with other data sets. This paper presents the use of the Harris matrix to map complex, stratigraphic deposits in combination with obsidian hydration, radiocarbon, and archaeomagnetic dates, from excavations at Copan, Honduras, to demonstrate how obsidian hydration can constructively contribute to the reconstruction of complex site chronology.

Friedman, Janet (Danes and Moore)

[108] Are We Killing the Goose?
For much of its history, archaeology was a private pursuit; research money was limited. That began changing in the 1960's with passage of the National Historic Preservation Act. Now, nearly 30 years later, archaeology is a required component of government permitting. Record numbers of archaeologists have jobs in government. Tax dollars are spent on compliance archaeology. It seems we have found the wealth patron to support our quest for knowledge. But, with the current mood toward reducing government mandates and cutting spending, is archaeology worth the money? This paper proposes ways to avoid killing geese in our quest for those golden eggs.

[74] Participant

Fryon, George C. (Wyoming); [9] Discussant; [70] (see Brooks, Marjorie); [105] (see Korndorff, Marcel); [116] Discussant

Frye, Gaye J. (Washington-St. Louis)

[93] Native Farming Systems from Lake Itasca to Lake Pontchatrain
The Mississippi Valley is divided into Upper, Central, and Lower archaeological regions, with important variations. The Central Valley was within the North American center of plant domestication, where native seed cropping flourished by 2500 B.P. Maize was present by 2000 B.P.,
but not intensified until eight centuries later. Few indigenous people in the Upper and Lower Valley reached their pre maize seed crops. Maize-based systems that developed in these two regions after 1100 B.P. were very different culturally and ecologically. I discuss the variation in ancient farming life along the Mississippi.

[71] Discussant

Fryman, Frank (Bureau of Indian Affairs) [166] Specific Effectiveness of United States Indian Policy on the Management of Archaeological Resources and on The Conduct of Archaeology on Indian Trust Lands

This presentation is a sequel to one entitled, “What Archaeologists Need to Know About the Trust Relationship Between Indian Tribes and the United States.” How the principles guiding the relationship affect such things as ownership and protection of archaeological resources on Indian lands, permits for archaeological work on Indian lands, consultation with Indian tribes, the relationship between the Bureau of Indian Affairs and other Federal agencies with regard to Indian lands, and contracting by and with Indian tribes are considered. An extensive opportunity to ask questions will follow.

Fulala, Josep Maria: [131] (see Albert, Rosa Maria)

Funk, Caroline L. (Wisconsin-Madison): [100] (see Maschner, Herbert D. G.)

Futato, Eugene M. (Alabama) [115] The Lithic Assemblage from Site PO27, Ponce, Puerto Rico

The lithic assemblage from site PO27 is small but remarkably varied. The available lithic raw materials consist primarily of igneous and metamorphic rocks with poor flake fracture properties. Tuffs, basalt, and granite were used in the production of simple, expedient cobble and flake tools. Small retouched celts were made from fine grained tuff and basalt. A coarse granite gabro was used in the production of beads in a variety of shapes. Siliceous stone is extremely rare as occurs primarily as small blades and cores. Other artifacts include engraved pebbles and small notched pebble weights.

Gabriel, Michael (California-Los Angeles) [55] Pyrotechnology Analysis: A Study of Fire and Complexity

The study of chimneys commonly focuses on the identification of prestige goods and production specialists. Bronze was a high profile prestige good during the Early Bronze Age in Denmark, and was consumed by the rising elite. Bronze production demanded a pyrotechnology that could provide more heat and control than any employed previously. I will look at how the new pyrotechnology affected established uses of fire. I suggest a method for analyzing pyrotechnology which can be used to investigate specialist workshops controlled by an elite class.

Gaertner, Linda M. (Wisconsin-Madison) [86] Chert Tool Production at the Eujuta Site, Oaxaca, Mexico

The lithic assemblage recovered from the Classic period Eujuta (Oaxaca, Mexico) excavations includes nearly 11,000 chert artifacts. The majority of the chert artifacts consists of tiny flakes from the bipolar reduction of high quality cherts, or agates. The reduction activities were geared toward the manufacture of standard sized drills and other tools, probably used to manipulate imported shell in the most efficient manner possible. The Eujuta chert artifacts used in shell working are compared to those from Formative period households at San Jose Mogote.

Golle, Jillian E. [126] Haute Couture: Cotton, Class, and Culture Change in the Protohistoric Southwest

From A.D. 1450-1700 production and exchange of cotton textiles was a central aspect of Pueblo society. Using Schneider’s textile theory (1987), this paper demonstrates that cotton textiles were a tool, political, and economic, properties which made them essential to the development of leadership in the protohistoric Southwest. Elite clans use of prime agricultural land and control of powerful ceremonial positions and trade relationships were directly tied to cotton production. Cotton was the all important representation of the deity; control of cotton meant a clan’s prestige and power. Spanish contact and the introduction of wool created a universal crisis which leveled developing Pueblo hierarchies.

Gea, Qiang: [77] (see Lee, Yun-Kuen)

Garber, Jim and Kent Reilly (both, Southwest Texas State) [64] Late Preclassic Mask on Structure B1 at Blackman Eddy, Belize

The function of Maya ceremonial precincts was to replicate cosmic order and provide a sanctified location for rituals that reenacted creation or provided the staging for shamane trance. The earliest of these structures were multi-tiered platformed topped by temples and were embellished with facades serving to fuse cosmology and myth into a supernatural display of power. At Blackman Eddy, Belize, a facade program was in place by the Late Preclassic. One mask displays ichnographic attributes linking it to the headdress masks worn by a figure on the La Majora stela and to Middle Formative objects in the Olmec style.

Garcia-Arguelles, Pilato: [131] (see Albert, Rosa Maria)

Garcia Soto, Ruben (Paracas Site Museum, Peru) [53] Paracas Settlement Pattern Archaeology and Cultural Process in South Coastal Peru

New archaeological survey has been conducted at the Paracas Peninsula and along Paracas and Independence Bays where some of the most important sites of the Peruvian south coast are located: the early potteries of Diso Verde, the north coast-connected site of Puerto Nuevo, the Chavin-textile-bearing site of Carvaz, and the great Paracas cemeteries. My settlement pattern fieldwork and pottery analysis put these desert sites into a dynamic, processual, regional cultural perspective. I also suggest a new relative chronology for this particular region, rather than automatically using the La-Neza chronological scheme to it as others have done.

Gardner, Karen M. (Prowett and Associates), Brian S. Shaffer (North Texas), and John E. Dockwell (Texas A & M) [30] Prehistoric Hunting Technology and Techniques of the Mimbres

Prehistoric hunting technology and techniques of the Mimbres people of southwestern North America have been inferred from two indirect sources including faunal remains and nonperishable tools. The Mimbres people also documented many of these activities on their Classic Mimbres pottery (A.D. 1000-1150). Comparison of the indirect sources with the pottery motifs indicates that both data sets are incompatible, complimentary, and provide very different aspects of hunting. The combined information of these data sets portrays a diverse regime for game that compares well with hunting practices described in the ethnographies of historic Puebloan groups.

Gardner, Thomas Garver (Pennsylvania State) [66] (see Hirsch, Kenneth)

Garrison, Ervan G. (Georgia) [18] Archaeological Geophysics and Temple Mounds

Archaeological geophysical techniques, soil interface radar and magnetic susceptibility, have been used to investigate temple mound architecture at Etowah, Scull Shoals, and Dublin temple mound groups in northwestern and north-central Georgia. Combined with cryogenic coring techniques, CO2, and N2, a synthetic, low-disturbance protocol has been developed for the characterization of the internal structure of these late prehistoric constructions. Preliminary results of work done in 1992-1994 is presented with conclusions and discussion for directions for further research.

Garraw, Patrick H. (Garraw Associates) [115] La Iglesia de Maragües, A Local Ceremonial Center in the Cerrillos River Valley, Ponce, Puerto Rico

Archaeological excavations at La Iglesias de Maragués (PQ39) revealed a site that dated to the eleventh century A.D. It consisted of a bay with petroglyphs, a buried midden deposit on a slope below the bay, and a single 'D' shaped house on a ridge to the south of the buried midden. PQ39 is a highly unusual site type in Puerto Rico, as there was no evidence it had ever been used as a domestic occupation. This paper discusses the results of the PQ39 excavation, and interprets the site as a local ceremonial center.

Geih, Phil R. (Navajo Nation) [107] Plain Weave Sandals and Middle Archaic Occupancy of the Central Colorado Plateau

Archaeologists have identified a Middle Archaic break in occupancy of the Colorado Plateau based on a gap in radiocarbon dates between 6000 and 3000 B.P., and the evident abandonment of several important sites. Plain weave sandals from shelters of the central plateau were radiocarbon dated to determine if the gap in dates is Illusory and if the abandonment of certain shelters resulted from change in regional settlement patterns. The sandals range in age from 6900 to 3200 B.P., providing evidence for continuity in population and culture from early to late Archaic, but change in the locations of residential bases.

[67] (see Wartburton, Miranda)

George, David R. and Jeffrey C. M. Bendremer (both, Connecticut) [71] Late Woodland Subsistence and the Origins of Horticulture in Southern New England

Recent discoveries in New England indicate that maize horticulture appears in the region at about
A.D. 1000 or the beginning of the Late Woodland period. We observe, however, that there is significant variability in the subsistence patterns of coastal vs. inland riverine populations with evidence of intensive maize horticulture being limited to Late Woodland sites located in inland areas. The subsistence strategies associated with various ecological zones of southern New England are described and compared to those found in other areas of the Northeast.

Geovannini, Helga (Universidad de las Americas); [66] (see Pinkert, Patricia)

Gero, Joan M. (South Carolina) and Maria Cristina Scattolin (Museo Etnografico, University of Buenos Aires)

[40] Household Production as Glue: Insights from the Early Formative of Northwestern Argentina

Recent investigations at Yutupian, province of Catamarca (northwest Argentina) revealed an unusual complex of early formative agglomerated household structures. Preliminary studies of the intact living floor of one structure suggests cooperative production in food preparation and possible manufacture of copper artifacts. This paper will argue that the gender and kinship arrangements that shaped production sequences for local food preparation also conditioned the production of specialized goods for intrusive circulation. The ﬁrst volume of the Working Papers of the Working Group on household organization of productive activities reproduces and reframes social structures, and challenges the notion that specialized labor segregates work groups and gives rise to new social structures.

Gessler, Nicholas

[47] A.L.I.C.E. in the Kalahari

Computational modeling is rapidly advancing under the umbrella of Artificial Life to instantiate the complex phenomena of emergence, self-organization, multi-agency and evolutionary programming. The A.L.I.C.E. paradigm has been invoked in social research, a trend I refer to as Artiﬁcial Culture. In A.L.I.C.E. (Artiﬁcial Life In Cultural Evolution), the A.L.I.C.E. strategy is used to explore global stabilizing versus local optimizing options in risk and resource sharing strategies among Kalahari hunter-gatherers.

Gibbon, Guy (Minnesota); [110] Discussant

Gibson, D. Blair (California-Los Angeles)

[81] Please, Oh Please Don’t Throw Me Into That Bramble Patch... Reconstruction of Chieftdoms in the Burren of Co. Clare, Ireland

The Cahermonevan Project was initiated in 1984 to study in detail the organization of a 9th century A.D. Irish chieftdom. The research design set out a two-tiered region survey strategy with test excavation, focusing on settlements and field boundary wall systems. Though the strategy showed promise in revealing the internal organization of the chieftdom’s population, and the social denotations of the landscape, it proved inadequate to the task of boundary detection. The project’s methodology will be evaluated against the goals of reconstructing chieftdom scale polities from the archaeological record.

Gibson, Jon L. (Southwestern Louisiana)

[104] The Sacred and the Secular at the Poverty Point Site

Artifacts recovered from different sections of the Poverty Point earthworks are distinct. Fill assemblages are dominated by recycled and curated materials as well as baked-clay cooking-object fragments. Embankment-top exhibits a wider variety, higher numbers of whole objects, features and other indications of intensive, stable, domestic occupation. But the large array of ornaments and representative (zoomorphic) artifacts and recencies have hisc non-ceramic from the religious and ceremonial lore of Southern Indians. It is suggested that Poverty Point functioned, alternatively and simultaneously, as a residential and ceremonial place at various times in its development.

Gieske, Martin (Chicago)


I will discuss the evidence that could indicate that some of Tiwanakus urban household groups (apar) were manufacturing stone tools for use outside of the household level, in what I interpret as a potential indication of household taxation by Tiwanaku elites during the IV and V periods (300-1000 D.C.). Both local (cryptocrystaline silicates) and exotic (obsidian) fine-grained raw materials were used. Evidences from the urban sites of Tiwanaku and Luktumana will be compared with those from rural sites in the Tiwanaku valley.

Gilman, Patricia A. (Oklahoma); [92] Discussant

Giplin, Dennis (SWCA, Inc.)

[111] Anasazi Community Architecture Along the Lower Pueblo River, Northeastern Arizona

Studying the Chacoan system as an isolated phenomenon neglects its antecedents and results. The lower Pueblo River valley of northeastern Arizona, one the southern corridor of the Chacoan system, contains the full range of Anasazi community architecture from isolated great kivas (dating as early as the Basketmaker II period) through Chacoan-style great houses to aggregated pueblos of the thirteenth and fourteenth centuries. Great kivas and great houses may represent specialized ritual architecture, but contain no architectural features or attributes that are not also found in smaller residential sites. Aggregated pueblos combined residential and ritual architecture in a single building.

Giril, Evgeniy (Institute of Material Culture History, St. Petersburg, Russia); [97] (see Bradley, Bruce A.)

Glascock, Michael D. (Research Reactor-Missouri); [57] (see Blades, Brooke); [94] (see Cuckler, Paul); [126] (see Giovacchi, Donna M.)

Glascock, Michael D. (Research Reactor-Missouri) and Tom Beard (Landmark Archaeological/Environmental Services)

[114] Analysis of Chert Samples from the Mt. Vernon Site; 12PO885, Mt. Vernon, Indiana

The Mt. Vernon Site (12PO885) is one of the five largest Hopewellian Indian burial mounds in the nation and dates to about A.D. 50. The mound was destroyed and located in 1988 but some materials were later recovered. A small sample of chert artifacts (cache bowls) from site were analyzed with Pierre significant source specimens for reference was submitted for chemical characterization and sourcing by neutron activation analysis at the Missouri University Research Reactor (MURR). Preliminary results indicate that chert sources from Ohio to Missouri may have been utilized by the prehistoric inhabitants.

Glawacki, Donna M. and M. D. Glascock (both, Research Reactor-Missouri)

[126] The Nature of Production and Exchange in the Sand Canyon Locality Based on Compositional Groups Formed by Neutron Activation Analysis

The chemical characterization of Mesa Verde variety black-on-white bowls and clay sources from Castle Rock and Sand Canyon Pueblo sites in southwestern Colorado has provided insights into the nature of production and exchange in the Sand Canyon Locality. The Mesa Verde variety black-on-white bowls sampled from these sites were locally produced. The data also suggest that exchange occurred between Castle Rock and Sand Canyon Pueblo. This evidence for exchange is interesting given that one possible scenario for the social relationship of the two sites is that they were competing for resources.

Glawacki, Mary (Brandeis)

[53] Ceremonies, Ritual, and the Control of Water: Wari Administration in the Southern Highlands Valley of Cuzco

Middle Horizon (ca. A.D. 500–900) sites in the Cuzco Valley include the planned architectural complex of Pikillacta, considered the southern provincial administrative center of the Wari expansionist state. Recent analyses of Pikillacta pottery and other data point to ceremonial and ritual activities with analogs in Inca administration. There are ceremonies of feasting and drinking, a form of reciprocation for labor and service carried out at Inca provincial administrative centers, and ritual practices of ancestor and huaca worship for the cosmological control of water, an impetus for Inca imperial expansion. These analogs offer potential insights into understanding Wari expansionism.

Godley, David (Monash University); [96] (see Bishop, Paul)

Geestel, Ted (Southern Oregon State)

[97] A New Look at the Inner Asian Early Upper Paleolithic

Most students of the Paleolithic consider Siberia and surrounding Inner Asia a vast archaeological void. Nothing could be further from the truth. Recent work in the region has unveiled a mid-Uppe Pleistocene sequence that documents a radical shift in human behavior around 45,000-40,000 years ago. Dozens of sites can now be grouped within an early Upper Paleolithic technocomplex. This technocomplex is marked by a drastic increase in the production of blades, bifaces, and burins, and the concomitant disappearance of Levantine technologies. In addition, a series of tool types appear in greater frequencies (namely retouched pointed blades, end scrapers, burins, wedges, geometric points, and denticulate points) and bone and antler points and bone awls and needles occur for the first time, at possibly, mobile habitation. Sites documenting the initial Upper Paleolithic
Gold, Debra L. (Michigan)
[129] Late Prehistoric Sociopolitical Organization in Piedmont Virginia: New Evidence From the Rapidan Mound Site
Recent studies of late prehistoric interior Virginia have reexamined traditional interpretations of a "simple" foraging society and provide evidence suggesting a ranked system of sociopolitical organization during the Late Woodland period. Rapidan Mound is a Late Woodland (A.D. 900–1600) accretional mound which may have originally contained more than 1000 individuals in multiple secondary interments. This paper presents results of analysis of the human skeletal remains from this site. New insights are gained by examining three lines of evidence for differential social ranking: treatment of individuals during life, during primary interment or post-mortem processing, and during interment in the mound.

Goldstein, Paul (American Museum of Natural History)
[49] Settlement Patterns of the Arica Valley, Chile: New Data and the Legacy of Arica's Veja Escrita
In the three decades since Percy Danielsberg established the Arapa Valley's prominent place in the culture history of the south-central Andes, urban and agricultural development has changed the face of that valley almost beyond recognition. Despite the subsequent destruction of some of the sites reported by Danielsberg and his colleagues, the results of early excavations provide an invaluable record, particularly for the mortuary component of Arapa archaeology. A systematic survey of the Arapa Valley conducted in 1992 supplements previous site inventories with new data on the distribution of domestic settlement. In concert, these data illuminate issues of indigenous agrarian settlement, early altiplano-coastal interaction, Tiwanaku colonization, and Post-Tiwanaku political development.

Goldstein, Lynne (Wisconsin)
[91A] NAGPRA and the Disposition of Unaffiliated Human Remains: An Introduction
Progress on issues surrounding implementation of the Native American Graves Protection and Repatriation Act.

Goodman, Wendy (Tennessee): (09) (see Barner, Wendell)

Gonlin, Nan (Kennesaw State)
[37] Ancestors in the Countryside: Interpreting Rural Maya Burial Patterns
Rural burials are not common throughout Mesocucumena. These burials, when recovered, provide for interesting analysis as to their meaning and importance. The interpretative framework for this task is based on P. McManus's work on ancestor veneration in the Maya region. Burial of people of stature in the rural areas may be connected to land tenure and rights. Data come primarily from Copan and Placencia, but other Maya sites further illustrate this Classic Maya custom. The practice of ancestor veneration is pervasive, encompassing all social classes.

Gustor, LeRoy (Minnesota Historical Society)
[83] Investigation of the Cedar Valley Chert Source Area in Minnesota: Patterns of Regional Use
Recent investigation in southeastern Minnesota identified a cluster of Cedar Valley chert (CVC) lithic procurement sites designated as the 275 hectare NRIIP Cedar Valley Chert Archaeological District. CVC is a unique Devonian-aged silicate of moderate to high quality that was sought and extensively utilized by hunter-gatherers with a curative technology. Review of regional data and sites within the CVC Archaeological District indicates this lithic material was exploited continuously over the last 12,000 years with intensive use from the Early Paleolithic through the Middle Archaic Period.

Goodby, Robert G. (New Hampshire)
Archaeologists in southern New England have long noted the stylistic elaboration of ceramic vessels recovered from 17th-century "contact period" sites. Interpretations of these vessels have traditionally assumed a relationship between particular ceramic styles and individual tribal groups. This study argues that technological variation viewed diachronically indicates strong historical continuity between pre-contact and contact period ceramics, but that the spatial distribution of technological style does not correspond to social boundaries. It is suggested that technological styles reflect older, deeper social boundaries that are transformed and renegotiated during the contact period in response to European colonialism.

Gopher, Avi and Ram Gopher (both, Tel Aviv University)
[95] The Sixth Millennium B.C. in the Southern Levant: A Chronosequence
A revised cultural sequence of the sixth millennium B.C. in the southern Levant is presented, with the PPNC extending into the sixth millennium B.C., and pottery-bearing entities appearing shortly afterwards. The organization of these entities is whether the Yarmukian and the Lodian (Jericho IX) appear sequentially or represent contemporaneous geographically distinct entities continues. It can be shown stratigraphically and by seriating lithics and pottery that the Yarmukian appeared earlier, occupying the second half of the sixth millennium B.C. The Lodian is an early fifth-millennium B.C. entity, derived from the Yarmukian but deserving independent status.

Gopher, Ram (Tel Aviv University): (85) (see Gopher, Avi)

Gosselain, Olivier P. (University of Brussels)
[62] Social and Technical Identity Among South-Cameroonian Potters
Comparison of pottery manufacturing technologies among 21 ethnolinguistic groups in Cameroon identifies differences in form and manufacturing sequence. Stages in the chuine opéraire are excellent markers of ethnicity: they are free from any material constraint and depend entirely on the technical tradition in which the artisan learned the craft. The acquisition of motor patterns related to shaping leaves little room for personal initiative, and the ethnic identity of the instructor and the apprentice is nearly always identical. From one generation to another, the geographic spread of knowledge is narrow and rarely exceeds the boundaries of the group in which the artisan lives.

Graber, Robert Bates (Northeast Missouri State) and Michael T. Dunne
[47] Formalizing Population-Pressure Theory with Differential Equations
Human population is mathematically definable in geographical, nutritional, or political terms. Differentiating each definition with respect to time leads to rigorous measures of the extent to which a growing population is encountering inhibition of postulated population growth and toward proportional increase in the area it inhabits, the amount of food it produces, and the number of political entities into which it is divided. Theoretical progress and problems resulting from attempts to interrelate the three definitions are summarized.

Graham, Russell W. (Illinois State Museum): [38] Participant; [110] (see Fall, Carl)

Graves, Michael W. (Hawaii): [69] (see Ladehoff, Thege)

Graves, William (Arizona State)
[56] Ceremonial Feasting and Long Distance Exchange: Implications for Protolithic Social Organization among the Rio Grande Pueblos, New Mexico
Glaze ware ceramics from Gran Quivira and Pueblo Colorado provide important data concerning interregional relations within a cluster of protohistoric (A.D. 1450–1600) Rio Grande pueblos. Protolithic and archaeological data suggest that Gran Quivira may have been more prominent than neighboring villages, such as Pueblo Colorado. This paper tests the hypothesis that the two pueblos were ranked politically by examining the extent of ceremonial feasting and differential access to long-distance exchange networks. An analysis of glaze-decorated ceramic bowls will measure involvement in these prestige-building activities at each village to determine if a preeminent position can be attributed to Gran Quivira.

Grayson, Donald K. (Washington): [9] Discussant; [38] Participant

Green, Stanton W. (Clairton)
[113] Space, the Last Frontier: Method, Theory, and Spatial Analysis
The interpretation of form and behavior as it occurs in space is fundamental to all archaeological undertakings. Understandably, therefore, archaeologists have long discussed and debated the theories used to conceptualize spatial phenomena and the methods for acquiring, describing and analyzing and even presenting spatial data. How far have we come in developing spatial method and theory? Are we indeed thinking about space differently than we were 20 years ago? Are the methods we now employing qualitatively different from the early days of New Archaeology? This paper will argue, yes, in light of advances in landscape theory and related methodologies.

Green, William (Iowa): [33] (see Whelan, Mary K.)
Greenfield, Haskel J. (Manitoba) [31] Identification of Activity Areas on Early Neolithic Settlements in the Central Balkans: Excavations in the Balkans have traditionally ignored the benefits of preexcavation methodological strategies that help identify potential areas of excavation. Various techniques (surface collection, auguring, magnetometer, and resistivity surveys) were applied prior to excavation to identify the distribution of activity areas in an Early Neolithic Starčevo culture settlement (Blagotin) from the identification of activity areas in early agricultural settlements from the central Balkans.

Greenlee, Diana M. (Washington) [72] (see Dannell, Robert C.)

Greenwald, David H. (SWSA Inc.) [67] Linear Archaeology: What Piece of the Puzzle Are We Really Getting? Dutch Canal Ruin is used as an example of a site that was initially investigated as a transportation corridor and later as a spatially extensive area. The Arizona Department of Transportation ROW provided basic information about the site, indicating that it was composed of Pioneer and Colonial period fieldhouses. The ADOT ROW failed to identify Colonial period occupation in the dominant period fieldhouses. The ADOT ROW failed to identify Colonial period occupation in the dominant period fieldhouses. The ADOT ROW failed to identify Colonial period occupation in the dominant period fieldhouses. The ADOT ROW failed to identify Colonial period occupation in the dominant period fieldhouses. The ADOT ROW failed to identify Colonial period occupation in the dominant period fieldhouses.

Greer, John (Missouri-Columbia) [135] (see Greer, Mavis)

Greer, Mavis and John Greer (both, Missouri-Columbia) [135] Spatial Distribution of Pictograph Sites in Central Montana Rock Drawing in the Missouri Breaks: The Development of Agrarian Systems in the Mountainous Environments of Melanesia New paleoenvironmental data from the high inland basins of the island of New Guinea provide a detailed description of the influence of climatic changes and human activity on the vegetation from before 30,000 B.P. through to the present. Early human inhabitants of these high basins adapted to a cold and wet Pleistocene environment. The exploitation of local fauna (megafauna now largely extinct) and flora (e.g., Pandanus sp.) resources is considered to have been an important part of subsistence activities for the early inhabitants. A model is proposed for the development of agriculture in the high inland basins of New Guinea during the late Pleistocene, which places importance on rapidly changing climatic factors that force early foraging subsistence systems to be altered by more controlled or managed subsistence systems.

Habicht-Maujeu, Judith A. (California-Santa Cruz) [56] Dissertations

Haines, Helen R. (Mary Research Program, nikolai Grube (University Bonn), and Thomas Gruber (St. Mary's) [52] The Faces of Change: A Discussion of the Temple of the Males, Blue Creek Ruin Belize A discussion of the attributes of Str. 9 ("The Temple of the Males") at the Blue Creek Ruin, Belize. Discussing, through analysis of the iconography, architectural traits, and its association with surrounding structures and overall location, the structure's significance as both the physical center of the site, as well as its possible religious role, and how these aspects are reflected in the overall dynamics of the site, and its political role in the Maya hierarchy of Late Classic cities.

Hajicek, ed and shena K. Beaverson [59] Fluvial Discontinuities in the American Bottom as Context for Evaluating Cultural Transformations Discontinuities in behavior and culture are often in response to environmental discontinuities. Intervals of rapid Holocene landscape and environmental evolution of the northern American Bottom of the Mississippi are examined as a context for further discussions of culture change. Early and late Holocene changes in channel morphology and location, discharge, flood magnitude and frequency, sediment budgets, and depositional and erosional facies resulted in intervals of valley environmental changes with likely resource and habitat consequences.

Hatt, Edwin S. (SUNY-Brockport) and Richard E. Reimier (Reimer & Associates) [121] Late Prehistoric Monumental Architecture in the Alaskan Arctic. A study of Late Prehistoric villages in the western Brooks Range has recently documented details of large boulder-lined structures thought to analogous to historic period kurgan, or ceremonial houses.
First investigated in the 1960s by Irving at Kinyisikuvik and Desperation Lakes, these structures have also been documented at Fenliak and Burial Lakes. Many of the boulders, some exceeding 1,000 kg, bear unusual designs in the form of pecked pits and patterns of subparallel and intersecting engraved lines. Although the meanings of these designs are presently unknown, their similarities suggest the Fenliak, Desperation, and Burial Lake villages were part of a single settlement system.

Hahlbrock, Holly P. (MVAC-Wisconsin-LaCrosse)
A well-preserved Onoeta site (the Gundersen Site) near downtown La Crosse shows evidence of habitation and mortuary activities during three separate periods of occupation approximately A.D. 1300-1550. This site contained more than 700 refuse pits, 53 burials and a series of postmolds. The burials and possibly the associated structures have been dated to the Pammel Creek Phase, while the habitation debris dates predominantly to the earlier Bric Prairie and the later Valley View phases. The habitation debris documents intensive agricultural production and riverine exploitation, while the mortuary data suggests differential distribution of burial goods within the population.


Georegional and archaeological investigations of Casco Bay Estuary have identified over 500 prehistoric sites. Data gathered describe vegetation, climate, sea level, subsistence strategies, and settlement patterns from 10,000 B.P. to the present. Radiocarbon dating, sedimentological, and GIS analysis of vibracone samples are used to establish paleo shorelines and characterize past coastal environments in relation to prehistoric sites. This provides a basis for defining site value and projecting site risk, so helping formulation of a resource management plan. Future plans are to use GIS available to scholars, planners, and communities to enhance public understanding of, and involvement in, resource management in the region.

Hammond, Norman (Boston): [88] Discussant

Hammond, Norman (Boston) and Gair Tourtelot (Boston) [52] Racing the Seychelles: 1994 Investigations at La Milpa, Belize.
The third season of investigations at the Classic Maya city of La Milpa in northwestern Belize was focused on mapping, collecting, and testing settlement in rugged terrain up to 3 km from the central plaza. A dual strategy of transect and randomized area mapping was applied to investigate peripheral settlement rapidly. Precast and Early Classic occupation was concentrated in the center, with a dramatic change to ubiquitous Late/Terminal Classic constructions. Widespread landscape features indicating a managed landscape may have been the result of attempts to provision a rapidly expanding population at the end of the Classic period.

Hancock, R. G. V. (Toronto), R. F. Farquhar (Toronto), and L. A. Pavlish (Toronto) [98] Archaeological Copper Analyses at the University of Toronto.
Several thousand samples from copper-based artifacts from various locations in Eastern North America were analyzed chemically at the SLOWPOKE Reactor Facility, to sort native copper from European copper and brass. Platinum group element distributions in selected samples of European and North American copper were analyzed at the Isotope Facility and the data showed clear differences. Radiocarbon dating at the Isotope Facility was employed to determine the age of organic materials that were preserved by copper salts. Lead isotope Laboratory analyses of copper samples from both European and North American sources showed clear differences.

Many American tribes in the interior Pacific Northwest reserved rights to a wide range of resources on traditional lands, when treaties were negotiated in the 1850s. The nature of these reserved rights together with exploration of the differing worldviews of the physical environment between native and United States cultures is provided in the context of proposed ecosystem management strategies for all public lands in the Northwest managed by the U.S. Forest Service and BLM.

Hanks, Herrick E. (Bureau of Land Management) [80] Integrating Cultural Landscapes with Geographic Scales Used in Ecosystem Management: An Archaeological Perspective.

In order for the archaeological community to begin defining its role in the current shift from traditional resource management to an integrated ecosystem management, archaeologists need to address some basic questions regarding cultural landscapes and geographic scale. The session, therefore, addressed the topics of landscape definition, geographic scales, the dynamics of landscapes and cultural relative, landscapes and the archaeological record. The session results and recommendations for future actions will be briefly discussed.

Hanet, Nancy (Western Illinois): [42] (see Bullock, Peter)

Hannan, L. Adrian (Augustana): [110] (see Wilmot, R. Peter)

Hansell, Patricia (Temple): [54] (see Rumere, Anthony J.)

Hanson, Diane K. (Puerto Rico) [103] Prehistoric Aleut Mobility and Settlement.
Homeorganization of artifact styles along the Aleutian chain has been used as evidence for extensive migration or intergroup contact in the archipelago. Site location, however, is limited by the amount of land suitable for habitation (estimated at 5-10% of the available coastline by McCartney); marine faunal distributions including anadromous fish, large migratory sea mammals, and shellfish; and even volcanic activity. These factors do not limit movement along the island so much as they restrict site locations; therefore, large Aleut sites may be the result of repeated occupations of a few ideal locations rather than an indication of decreasing mobility.

Hanlon, Douglas B. (Forsyth Dental Center) [35] Health and Disease in Island Ecosystems: The Status of Bioarchaeological Research in Micronesia.
The small volcanic islands and atolls of Micronesia have limited resources that are vulnerable to the effects of typhoons, earthquakes, and long-term climatologic events such as drought. Although the small human groups that have populated these islands for nearly 5,000 years have developed coping strategies, the effectiveness of these strategies is variably and the biological impact is reflected in skeletal samples. The paper reviews the skeletal evidence for biological responses to environmental stress in Micronesia, with particular emphasis on the Mariana islands.

Hardy, Bruce L. (Indiana) [41] Functional Analysis of Stone Tools from the Middle Paleolithic Site of La Quina, France.
A combination of analytical techniques, including use-wear (edge damage and micropolish), residue, and DNA analysis, was used to investigate stone tool function at the Middle Paleolithic site of La Quina, France. The majority of these techniques provides support for the idea that the technologies are indicative of plant processing activities. The analysis of the stone tools suggests that processing of wood was an important activity at La Quina. DNA has also been recovered from a sample of tools and has been identified to species. Multiple techniques of functional analysis increase the amount of information recovered from stone tools.

Hare, Timothy S. (SUNY-Albany): [90] (see Caso, Lisa M.)

Presentation of results from magnetometer and resistivity surveys of historic and prehistoric sites in North Carolina including Somerset Place Plantation and Town Creek Indian Mound. Comparison of the two geophysical techniques and a discussion of their complementarity. Comparison of the geophysical results to information gained through excavation and survey of the same sites. Demonstration of the applicability of these geophysical techniques to other sites in the southeastern United States.

Hart, Roger [100] Late Prehistoric Subsistence Seasonality and Variability Across the Northern Alaska Peninsula.
Comparisons of faunal remains from the lower Naknek River drainage, the upper drainage, and Pacific coast reveal important differences that exist in subsistence in each area. A terrestrial mammal and salmon focus is represented at lower drainage sites, A terrestrial focus and salmon remains are important in each area; with other fauna represented, each site reflects distinct subsistence focus and human groupings across the northern Peninsula.
Harrod, Francis B. (Texas-Arlington): [97] Discussant

Harry, Karen G. (Statistical Research)
[78] Village-Level Craft Specialization: Investigation of a Prehistoric Ceramic Production Center in Southern Arizona

Ceramic compositional data indicates that, during the Rincon phase (ca. A.D. 900-1100), pottery production in the Tucson Basin was centered on the West Branch community of the Santa Cruz River. Using two types of data, this paper examines possible causes of the ceramic production organization. Laboratory experiments are used to evaluate the quality of the available clays and temperers, and excavation data provide information on the subsistence potential of the Santa Cruz River area. Information from these diverse sets of data is synthesized and compared against models that have been previously developed to explain the development of ceramic specialization.

Hartshorn, Karen [Harvard]: [41] (see Tylor, Robert H.)

Hassig, Ross (Oklahoma): [19] Discussant

Haas, Christine (California-Berkeley): [65] Discussant

Haas, Christine (California-Berkeley), Matthew Bandy (California-Berkeley), Lee Steadman (California-Berkeley), and Sonia Alcorni (Pittsburgh)

The 1992 excavations at Chiripa were planned to seek domestic areas outside of the mound that had been partially excavated. Excavations were located north and south at the mound. Much of the upper layers were mixed, but we did discern some activity areas and can see some shifts in style of use of the site as well as changes in artifact frequencies and densities between the Formative and the later Tiwanaku phases. Ritual activity is present throughout. Rather than domestic areas we found a Formative temple and Tiwanaku phase surfaces that did not seem domestic.

Hauser-Knipe, Phyllis (Harvard) and Donald W. Clark (Canadian Museum of Civilization)
[100] Specialized Activity Areas and the Manufacture of Ground Stone Tools at Ocean Bay Sites (5500 B.P. - 3500 B.P.) on the Kodiak Archipelago of Alaska

Comparisons of assemblages from three Ocean Bay period sites on the Kodiak archipelago reveal interesting differences in economic activities. Some of these differences reflect local environmental variability and seasonality. Other differences relate to specialized manufacturing activities. The conclusion which is reached is that ground stone tool production has become a major part of the economy at these sites. The presence of specialized manufacturing sites has gone unrecognized in previous discussions of the Ocean Bay period.

Haukainen, Susan I. (Massachusetts-Amherst)
[102] Fielding a Critical Archaeology

Intensive excavation began in 1994 at the Moors Homestead in Deerfield, Massachusetts with a number of critical questions. In particular, we were interested in how class, gender and race/ethnic positions both emerged and were reinforced by the spatial dimensions of work during the second half of the 19th century. The '94 excavations attempted to identify domestic work spaces and evaluate their potential for addressing these questions: who worked at the site? what work did they do? with whom? How will we discuss the results of the '94 summer field school's excavations in light of our research goals.

Hayashida, Frances (Dumbarton Oaks)
[40] Administered Craft Production in the Inka State

Ethnohistorical and archaeological data are used to explore administered craft production in the Inka state. It is proposed that an understanding of Inka craft production and the interpretation of Inka material culture is facilitated by considering (1) the objectives and strategies of the state, (2) the existing traditions of recruited artisans, who came from diverse cultural backgrounds, and (3) the specific relations of the state with local polities.

Haynes, C. Vance (Arizona): [126] (see Huckel, Bruce B.)

Haynes, C. Vance (Arizona), Michael McPaul (Laramie Soil Service), Robert H. Brunswig, Jr. (Northern Colorado), and Kenneth D. Hopkins (Northern Colorado)
[70] Kersey and Kner Terrace Investigations at the Deut and Bernhardt Sites, Colorado

Core sampling at the Dent site indicates an extension of the Kersey terrace under the tracks. Three hundred meters south the Kersey terrace has been exposed by a road cut at the Bernhardt site. An Archaic hearth dated 4030±60 B.P. is near the top of a thin soil overlaying 1 m of the

fine grained alluvium overlying sand and gravel of the Kner stream with an AMS radiocarbon age of 10,155±90 B.P. During quasi stability of the South Platte River at the Kner level Paleindians from Clovis to Cody hunted megafauna on the Kersey terrace during the Younger Dryas.

Haynes, Gregory M. (Desert Research Institute, Reno) and Paul E. Buck (Desert Research Institute, Reno)
[121] Technological Diversity at Prehistoric Sites near Yucca Mountain, Nye County, Nevada

Diversity measures are used to examine stone tool technology of lithic scatters and toolstone quarries in southern Nevada. The construction of technological classes is discussed, focusing on the use of existing data bases. Randomly generated data with similar parameters as real data are used to control for sample size differentials between sites. Diversity is seen to be related to part to proximity to toolstone sources and the kind of raw material available. Temporal trends in diversity measures are also examined.

Hayes, Gilpin, Kelley (Navajo Nation Archaeology Department)

Basketmaker III period (ca. A.D. 500-700) design styles in rock art differ from ceramics, textiles, and baskets. Artifact forms and the spatial organization rock art in the Tularosa Basin, for example, changes in rock art style at the site of Broken Flute Cave suggest that styles were partitioned along gender lines. In contrast, Pueblo III period (ca. A.D. 1150-1300) design styles cross-cut media. Textile designs appear in rock art as well as pottery, and life forms previously associated with rock art become more common on pottery. Changes in distribution of decorated styles across media provide clues to macroregional interaction and the organization of craft production.

Hayward, Michele H. (Panamerican Consultants): [34] (see Cinquino, Michael A.)

Heathcrick, Annabeth (Texas-Austin)
[82] The Street of the Dead...It Really Was: The Potential of the Mummy Bundle at Teotihuacan

Perhaps the most recognizable art from Teotihuacan are the stone masks. Despite the large number of surviving masks, their ritual function remains unclear. Evidence from recent excavations suggests that the masks were originally fastened to the mummy bundles of Teotihuacan's elite ancestors and installed in the temples on the main avenue. Using their ancestral bundles to lay claim to political power, the elites separated themselves from the nonelites and created a system of competing lineages. This model addresses the depersonalization of Teotihuacan art by arguing that the factional nature of the system restricted the authority of the office of the king.

Heath, Don M. (Tulane)
[31] Settlement and Exploitation in the Zinapécuaro-Ucareo Obsidian Source Area

Obsidian from the Zinapécuaro-Ucareo, Michoacan source area was a widely traded commodity in prehispanic Mesopotamia beginning in the Formative. Recent evidence of its significant contribution to the lithic assemblages of Epiclassic and Early Postclassic settlements in Central Mexico and northern Yucatan including Tula, Xochicalco, and Chichen Itza raise questions about the nature of prehispanic exchange between the Bajio and mainstream Mesoamerica. This regional survey of regional survey and excavation provide information on prehispanic settlement and obsidian exploitation in the source area that permit initial evaluation of alternative models of production and exchange.

Healy, Paul F. (Trent): [37] (see Awe, Jane J.)

Heckenberger, Michael (Carnegie Museum of Natural History)
[52] The Later Prehistory of the Upper Xingu Basin, Central Brazil

Investigations in the Upper Xingu region have yielded unique data regarding the nature of late prehistoric communities in this forested lowlands of southeastern Arara. A series of separate (1.0 km²) villages, fortified by extensive earthworks and interlinked by elaborate road systems, have been documented. Excavations at several sites provide evidence of a cultural continuum spanning ca. A.D. 1000–present. It is suggested that changes in macroregional sociopolitics, particularly intensified conflict, after ca. A.D. 1350, led to dramatic changes in local settlement patterns, notably population nucleation and village fortiﬁcation. Local communities again underwent radical transformation after European contact, ultimately giving rise to the contemporary "Xinguano" society.

Hegeman, Michelle (New Mexico State) and Margaret Nelson (SUNY-Buffalo)

At around A.D. 1150 aggregated populations in the Mimbres Valley, N.M., and surrounding areas
reorganized, and many apparently settled in dispersed farming hamlets in the eastern Minabes region. Architecture and associated ceramic assemblages changed dramatically. Highly variable architecture is evident in both inter- and intra-site comparisons. Numerous ceramic types from much of the Southwest were added to the local Minabes types. These developments indicate a change in regional interaction. Detailed analyses of architectural features and of decorated ceramics are used to consider the forms that social interaction might have taken.

[63] Discussant Heldman, Donald P.: [125] (see Scott, Elizabeth M.)

Heller, Julie A. (Science Museum of Minnesota)
[12] Lower Limb Skeletal Morphometrics and Mobility in Prehistoric Central California Hunter-Gatherers

Analyses of site locations/distributions, flora, fauna, and ethno-archaeological studies have long been applied to questions of mobility among hunter-gatherers. Currently, increasing attention is being paid to an additional source of data on hunter-gatherer land-use patterns: morphological analyses of human skeletal remains. Femoral and tibial measurements were compared for skeletal samples from Early and Late Horizon sites in Central California. A total of six size-standardized skeletal traits indicative of relative lower limb activity level were examined. Results indicate no significant difference between Early and Late Horizon samples for these variables.

Helskog, Knut (University of Tromsø)
[17] Inter- and Intra-Site Variability in the Rock Art in Atta, Arctic, Norway as a Reflection of Different Meanings and Culture Groups

This paper claims that the internal variability seen in rock art does reflect different meanings and culture groups, synchronically, diachronically as well as spatially. This will be demonstrated for a 4,000-year time span among foragers in a floral arctic environment.

Helsley-Marchbanks, Anne M. (Howard Hughes Medical Institute)
[65] The Formative Period in Chayanta, Bolivia: Investigations at the Site of Puente Mayú

This paper will explore aspects of the Formative Period in northern Potosí, Bolivia, as exemplified by investigations at the site of Puente Mayú. In particular, some of the implications the Puente Mayú archaeological assemblage has for understanding the Early Formative Period in northern Potosí and the apparent interactions the populations of the Chayanta region had with both the Wankarani and Mízque/Cocobamba Formative traditions will be discussed.

Hemptih, Brian E. (Vanderbilt)
[77] A Craniosometric Assessment of the Oxus Civilization as a Bronze Age Link Across the Indo-Iranian Borderlands

Soviet archaeologists maintain that the Oxus Civilization (2200-1500 B.C.) served an important intermediary role connecting the Bronze Age civilizations of northwestern Iran with the Harappan Civilization of the Indus Valley. This research utilizes craniosometric analysis to test this intervention. When contrasted against data from nine sites located in northwestern Iran, eastern Turkey, and the Indus Valley, multivariate statistical analysis confirms the early origin of the Oxus Civilization from northwestern Iran. By contrast, there appears to have been little biological interaction between this civilization and populations of the Indus Valley during the mature and late phases of the Harappan Civilization.

Hennon, Kerry: [72] (see Caruso-Wessel, Terri)

Henrickson, Robert C. (Smithsonian) and Pamela B. Vander (Smithsonian)
[58] The Significance of the Potter's Wheel in Ancient Southwest Asia

Research on forming and finishing methods used in pottery production in 4th-1st millennia B.C. Iran, Iraq, Syria, Turkey and Egypt show that use of the potter's wheel, whether for mass- or smaller-scale production, is often misidentified. Reconstruction of sequences of manufacture using fractography, texture analysis, and radiography demonstrate that only small vessels were thrown on the potter's wheel. Larger vessels involved varied combinations of hand-formed techniques, and sometimes partial throwing. The technological style(s) of an assemblage, not a single forming technology or tool, must underpin study of production.

Hearty, Patti
[134] Theme Studies in the National Historic Landmarks Program

National Historic Landmarks are buildings, sites, districts, structures, and objects that have been determined by the Secretary of the Interior to commemorate and illustrate the history and culture of the United States. The National Park Service conducts this program to designate and protect these

properties. It is a cooperative endeavor of government agencies, professionals and independent organizations sharing knowledge and working jointly to identify and preserve these properties, Potential Landmarks are identified through theme and special studies prepared or overseen by Park Service professionals. The studies provide a comparative analysis of properties associated with a specific area of American history and prehistory.

Herbahn, Cynthia (Arizona State)
[56] The Complexity of Early Rio Grande Glaze Paints: Implications for Technology Transfer

Anna G. Shepard called the fourteenth century Middle Rio Grande Valley the "cradle" for the development of the Rio Grande Glaze-Paint pottery, and posulated that the technology spread from there to other areas of the Rio Grande. However, little is known regarding the nature of the technology, let alone how it developed and was transferred to other areas. An electron microprobe analysis of the composition of Middle Rio Grande glaze paints suggests that the technology is less complex than expected and remarkably homogeneous. This paper explores the nature of the glaze paint technology and its implications for technology transfer.

Hermans-Audelo, Margret (National Museum of Iceland)
[127] On the Early Settlement of Iceland: Revaluation in Light of Archaeological Evidence

The traditional view of the beginning of the Norse colonization in Iceland is set in 870-875 A.D. This is based on secondary Medieval records, principally the Book of Icelanders (Íslandsbók) and the Book of Settlements (Landsnýsblók). Recent archaeological results from an excavated farm site in Herjólfsárdalur on the Westman Islands (south of main Iceland) indicate that the Norse settlement has occurred earlier, eventually as early as in the 7th century. This conclusion is based on stratigraphical observations and relative chronology, tephrostratigraphy (chronology based on volcanic ash layers and their stratigraphical distribution) and radiocarbon datings. sod and stone building traditions reflected in the farm site and certain artifacts found clearly point to the Norse origin of this early settlement in Herjólfsárdalur.

Herr, Sarah (Arizona)
[118] Circular Great Kivas and Community Reorganization in the Upper Little Colorado Area, Arizona

Recent research on great kivas in the Upper Little Colorado region suggests that morphological changes in kiva reflecting changing social and ideological contexts in the Casaon and post-Casaon periods. Spatial, temporal, and formal data on nearly 60 circular great kivas from the millennium of Southwest prehistory are explored. These data provide a context for the discussion of community reorganization during the twelfth century in the Upper Little Colorado area of central Arizona. Institutional changes caused by the movement of populations and ethnic coexistence created this need for community integration.

Herrera, David M. Peruera (Universidad Mayor de San Simon-Cochabamba): [85] (see Brockington, Donald L.)

Hester, Thomas R. (Texas-Austin): [37] (see Hudson, Dale B.)

Hester, Thomas R. (Texas-Austin) and Harry J. Shaffer (Texas A & M)
[9] Early Holocenic Occupations in the Lower Pecos Region of Texas

The Lower Pecos Region of southwest Texas has yielded some of the most complete information available on mobile hunters and gatherers of the early Holocene. Excavations in twenty cave sites, Baker Cave and Hinds Cave, combined with information from deeply stratified utilitarian sites, have provided evidence for a Late Paleoindian occupation and a detailed picture of subsistence patterns and adjustments to post-Pleistocene conditions 10,000-6000 B.P. Data from a wide variety of contexts (copolies, hearths, etc.) are reviewed.

Hicks, Abrah M.
[70] Amerindian Diffusion and Circumpolaric Cultures

An extensive human population is required to substantiate the genetic and linguistic data prescribing an Amerindian presence in pre-Clovis times. This presentation will address archaeological and genetic correlations concerning Amerindian origins. Could Amerindians have contributed to the formation of the contemporary Siberian and Northeast Asian Circumpolar populations? The movement of Paleoindian Traditions into the Circumpolar regions of North America is supported by archaeological and mtDNA data if an Amerindian contribution (admixture), to the formation of these populations is presumed. This alternate explanation, supporting Amerindian admixture as a cause for "Amerind miDNAs' in Circumpolaric people, will be addressed.
Hilbert, Fredrik T. (Harvard) and Katherine M. Moore (Bentley).
[77] The Silk Route Before Silk: The Development of Social Complexity in Western Central Asia

Post-Soviet period research on the Bronze Age of Western Central Asia (3500-1700 B.C.) has shifted in perspective away from historical determinist explanations of social complexity. The distinctive Bronze Age culture of Central Asia includes sites along the Silk Road, rivers and valleys in the region. The site's origins are better known for their subsequent role as points of organized trade along the Silk Route. Previously proposed theories of culture change in Central Asia focused on older replacement through migrations and unilinear evolution of technologies. Now, attention is directed to adaptation to new environments and local control of power.

Hill, Brett (Arizona State)
[42] Early Historic Environmental Mismanagement in the Rio Grande Area

During the early historic period in the Rio Grande area of New Mexico, the Pueblo Indians experienced social and economic crises that led to dramatic changes in their settlement patterns. Among these crises was the imposition of Spanish production demands and restrictions on mobility and resources access. A GIS comprised of physiographic and climatic data is used to evaluate and quantify the impact of these factors. Special attention is given to changes in the type and extent of agricultural production and their effect on local ecosystem stability as demand changed and flexibility was constrained.

Hill, Christopher L. (Montana State, Museum of the Rockies)
[51] Quaternary Stratigraphy and Geomorphic Context for Paleoindian Occurrences in northeastern Minnesota

Quaternary strata and landforms in northeastern Minnesota indicate a context for Paleoindian occupation associated with ice margins, proglacial lakes and fluvial drainage systems. The Ainsworth site was near the Cloquet River about 12,000 years ago, followed by the Cloquet moraine contemporaneous with Lake Uplift I. The Alborn and Nickerson advances occurred around 11,500 B.P. Lake Uplift II existed during the Porcupine advance around 11,800 B.P. Around 10,800-9,000 B.P. Lake Agassiz drained into the south and the Lake Ainsworth basin. A proglacial lake was present during the Marquette advance 9,900-9,500 B.P. and Beaver Bay and Minong Lake levels existed before 9,000 B.P.

Hill, David; [77] (see Curran, Geoffrey)

Hill, Mara D. (Texas A & M)
[92] Documenting Classic Mimbres Household Construction Sequences from Architectural and Mortuary Evidence at the Swarts Ruin

Archaeological information is an important component of studies of the Mimbres culture of southwestern New Mexico; undisturbed sites are a rarity in the region. This paper applies statistical methods along with faceted and theoretical advances made in more recent and better documented excavations to the limited data available at the Swarts Ruin fieldsites of H. S. and C. B. Cogswell. Because these excavations were carried out in the 1920s, at a time when Mimbres archeology was just beginning; this research seeks to address more current issues of social organization and context as expressed in material culture found at the Swarts Ruin.

Hill, Matthew Glenn (Wisconsin) and Lawrence C. Todd (Northern Colorado)
[116] Paleoindian Subsistence on the Northwestern Plains: New Data from the Casper and Agate Basin, Wyoming

Reexamination of the bison remains from the Casper and Agate Basin sites offers new insights regarding Paleoindian butchery and carcass utilization. At Casper, limb bones were processed as a complete, articulated assemblage. At Agate Basin, some limbs may have had large muscle masses adhering when marrow was extracted. In comparison, some large pieces of bone at Agate Basin (Main Fossil component) suggests carcass disarticulation occurred prior to marrow removal. These are the first reported faunal remains from both sites, possibly a result of human transport. Current models of Paleoindian subsistence may oversimplify bison and medium-sized artiodactyl carcass utilization.

Hill, Matthew E. and Dean T. Sather (both, Kansas)
[155] The Pueblo on the Plains: Spatial Analysis of Bison Processing at the El Cuartejo Pueblo in Western Kansas

The El Cuartejo pueblo was occupied near the beginning of the 18th century. Excavation of the site in the 1970s recovered numerous faunal remains of which bison were most dominant. This paper examines the processing techniques of bison and the associated activity areas. Basic documentation of the bison remains (MNI, element frequency, seasonality) and taphonomic life history of the assemblage is also discussed. Conclusions are made pertaining to the relative importance of hunting in the group's subsistence strategy, sharing of bison products by the inhabitants, and in general, the cultural adaptations of sedentary groups living on the Plains.

Hinshelwood, Andrew
[51] Archaeic Reoccupation of Late Paleoindian Sites in Northwestern Ontario

To date, one native copper and several chert corner-notched projectile points have been recovered from late prehistoric occupations at sites in the western Lake Superior basin. The presence of the archaeic points affects both the study of late paleoindian lithic reduction traits and regional settlement patterns. It appears that archaeic people reoccupied late paleoindian quarry and workshop sites for the purpose of resharpening discarded core and bifaces. The late paleoindian sites occupied active post-glacial lake shores, while the archaeic presence represents inland travel.

Hirth, Kenneth, Maria Pasinl, and Thomas Gardner (all, Pennsylvania State)
[66] Prehispanic Volcanic Events in the Texlima Region of Puebla, Mexico, and Their Archaeological Implications

Archaeological research has identified a series of volcanic events which affected prehispanic occupation in the Texlima region of Puebla after 200 B.C. This paper identifies these geological events and discusses how they may have influenced prehispanic land use, settlement patterns, and population levels in the Cholula-Huejotzingo region. The research indicates that volcanism had a dramatic impact on the demographic history of this region during the prehispanic era.

Hirth, Kenneth G. (Pennsylvania State); [21] Discussant

Hitchcock, Robert C. (Nebraska) and Laurence Bartam, Jr. (Franklin and Marshall)

Understanding how social boundaries are expressed via material culture can perhaps best be accomplished ethnoarchaeologically, and "technological style" provides an instructive conceptual framework. Two recent studies in the recent area of understanding ethnoarchaeology are discussed. First, a study in the western United States of the Hopi Pueblo on the role of social boundaries in shaping technological style. Secondly, an investigation of the relationship between ceramic form and function among the Hopi Pueblo on the role of social boundaries in shaping technological style.

Ho, Chuan Run (National Museum of Natural Science)
[16] Land Use Patterns of Pleistocene Homeland in North China

Two lithic technological traditions of foragers have been proposed in north China in order to highlight two regional diversity of lithic assemblages throughout the Paleolithic periods. Although the observed pattern of such a contrast was framed in a historical perspective, but that diversity did suggest the adaptive trend. The purpose of this paper is first to describe the location of representative open-air and cave sites/locations of the above-mentioned traditions; and then to examine them from a technological perspective; and lastly to probe the inter- and intra-assemblage variables. We may then examine the land use patterns of the Pleistocene Homeland in north China through the discussion of morphological adaptations and the utilization of raw materials in terms of forward planning, anticipating the organization within their paleoenvironmental contexts.

Hockett, Bryan Scott (Bureau of Land Management)
[43] Global Positioning System (GPS) and Archaeology in Nevada

Nevada BLM's Bureau of Land Management (BLM) archaeologists are utilizing the Global Positioning System (GPS) during field inventories. The GPS unit in use by the Nevada BLM consists of the Trimble 3000 Series microcomputer and Trimble GPS 3000 Data Logger. This flexible system allows the archaeologist the ability of being dismembered (such as site features), line features (such as rock outcrops or fences), and point features (such as rock carvings or springs). This poster will graphically illustrate the recording of archaeological sites using the Trimble-MC-V Unit and Pathfinder software. Information on satellite configuration and costs and benefits of the GPS will also be presented.

Hodge, Mary (Houston-Clear Lake); [26] (see Parsons, Jeffrey)

Hoffecker, John F. (Argonne National Laboratory)
[107] The Austrignacian Phenomenon and Eastern Europe

Roughly 40,000 years ago, Austrignacian assemblages appear across Western Europe, Central Europe, and the Near East, manifesting a remarkable degree of homogeneity and synchronicity. This phenomenon is widely thought to represent the spread of modern humans, at least in Europe. However, there is little evidence for the Austrignacian on the Eastern European Plain, where the early
Upper Paleolithic record seems to reflect a different history of development. The explanation probably lies in the Last Glacial environmental setting of this region, and may have significant implications for the transition to modern humans in western Eurasia. [36] (see Moeller, Ronnie L.)

Hoffman, Brian W. (Wisconsin-Madison)
[43] Late Prehistoric Corporate Households in the Eastern Aleutian Region

The residential corporate household is a unit of analysis that holds tremendous potential for understanding the causes and consequences of sociopolitical complexity among village-based societies of the north Pacific. The archaeology of the Aleutian Islands in particular holds great promise in this direction since shortly after A.D. 1000, the Eastern Aleuts amalgamated into large, corporate households. Termed nucleus-satellite houses, these households are seen archaeologically as a large house depression surrounded by a number of satellite depressions that served as storage facilities, living areas, and burial chambers. 1994 investigations in Peterson Lagoon on the north shore of Unimak Island provide much new data on the organization of these corporate houses, the use of the satellite features, lithic technology, and the timing of the rise of these corporate entities.

Hoffman, C. C. (Nevada-Reno)

The Paleoindian/Archaic boundary in the Great Basin is neither well defined nor understood because of the limited contextual information presently available. Attempts to fill this void have precipitated the borrowing of theories concerning Paleo-inhabitants from other regions such as the Great Plains and the Southwest. However, data now available do not fit well with these borrowed theories. This paper proposes a beginning step that will, by synthesizing old research pathways into a new direction, account for the recent data. The development of long as well as short term research objectives is also discussed.

Hoffman, Christopher R. (California-Berkeley)
[124] More Than Just Metals: Material Culture and Technology in Late Prehistoric Mallorca, Spain

Although the heuristic separation of a single material from its material and social contexts can lead to valuable inferences, conceptually re-integrating those materials can generate equally important findings. In this case study, materials from Copper Age and Bronze Age sites on the Mediterranean island of Mallorca are examined. Although metals and metallurgy are central to this study, it is only through a contextual comparative approach that a more comprehensive understanding of the social dimensions of technology can emerge.

Hoffman, Inez Reed (Panamerican Consultants): [34] (see Cinquino, Michael A.)

Hoffman, Michael P. (Arkansas)
[120] Roles of Many Colors: Rosetta Skins for Quapaw Archeology

The painted buffalo skins offer an exciting new source of information about the culture and archeological remains of the eighteenth century Quapaw. Written accounts about native settlement architecture, cosmology, costume, ceremony, warfare and material culture are confirmed and supplemented. The pictorial and written information helps to establish characteristics of Quapaw archeological culture so that sites of the period can be identified.

Hoffman, Jack (Kansas) and Lawrence C. Todd (Colorado State)
[9] Lipscomb: Just Another Folsom Bone Bed?

Bone is often argued to represent the most significant element in Paleoindian diets in the Plains. The contribution of bone to the diet and economy of Paleoindian hunters may have varied depending upon the period, season, region, and ecological conditions. Bone bonebeds studies document the economic and technological reliance on bone, and can provide clues about Paleoindian group organization, mobility, land-use patterns, site formation, and paleoecology. The study of the Lipscomb site, the largest known Folsom-age bone bed, provides information pertinent to these questions.

Hohmann, Bobbi (New Mexico): [37] (see Povis, Terry G.)

Hohmann, John W. (Louis Berger & Associates): [43] (see Irish, Joel D.)

Hol, Frank (Yale)
[84] Is Size Important? Function and Hierarchy in Neolithic Settlements

Early Neolithic settlements in the Near East range in size up to 15 hectares, but it has been difficult to discern and relate differences in function and social hierarchy among the sites to differences in their size. Evidence of trade and manufacture, burials, specialized architecture, and symbolic artifacts, provide avenues toward interpretation of function and hierarchy in selected examples of Neolithic communities. The implications of the geographic locations and range of time during which large sites occur, are also examined.

Holien, Steven R. (University of Nebraska State Museum)
[70] Taphonomy of Mammoth Sites in Late Wisconsinan Loess: Natural Processes or Human Modification?

Two mammoth sites, located in late Wisconsinan loess in the Central Great Plains of North America, offer the opportunity to study highly fractured mammoth bone in an eolian setting. Radiocarbon dating places these sites between 14,500 and 18,500 years B.P., which agrees well with the local and regional stratigraphic sequence. Fracture patterns from these two sites are compared with fracture patterns caused by the modern natural processes, carnivore gnawing and elephant trampling, also, they are compared with ethnographic and archaeologically documented modification of prehistoric bone. Results of these comparisons suggest that human modifications is the primary taphonomic agent.

Holley, George R. (Southern Illinois-Edwardsville): [18] (see Dobbs, Clark A.)

Hollinger, R. Eric (Ibilois-Urbana/Champaign)
[28] Oconoa Adaptations, Interactions and Cultural Extinction Viewed Through Lithic Technologies

The Late Prehistoric Oconoa Tradition of the midwestern U.S. was one of the most successful adaptations in American prehistory. The lithic technologies of these people have been viewed as rudimentary, or degenerative, containing little potential for answering significant anthropological questions. However, the process of Oconoa strategies possess insights that contribute to a more careful consideration of their material culture. The lithic technologies of the Oconoa are viewed here to assess the adaptations, interactions and eventual cultural extinction of these people and what light the most common material remains can shed on them.

Holtsford, Timothy (Missouri): [34] (see Buckler, Edward)

Holte, Wendy K.: [45] (see Cassell, Mark S.)

Hood, J. Edward (Old Starbridge Village)
[102] Some Observations on Interpreting the Archaeology of a New England Village to the Public

Interpretation of archaeological work through public programs is an important but often ambiguously successful means to inform the public about both historical and social issues. This paper will provide an overview of one such effort in the village of Deerfield, Massachusetts. The goals, methods, and results of this program will be discussed, and some observations about how the participants in this program conceptualized the past will be made. Attempting to understand the various perceptions and perceptive filters and metaphors that people bring to archaeology programs needs to be a central part of the development of our interpretations and the manner in which they are presented.

Hooper, Lisa M. and David Rhode (both, Desert Research Institute, Reno)
[43] Harvest and Yield Studies of Some Ethnographe Food Plants in the Yucca Mountain Area

Prince's plume, chia, mesquite and many other subsistence plants were important resources for the Native American population around Yucca Mountain, Nevada at the time of contact. The Desert Research Institute is conducting harvest and yield studies of some ethnographic food plants in the Yucca Mountain area. These species were harvested and prepared in the traditional manner. This paper will compare the amount of food produced and the time necessary to harvest and prepare the product for consumption, and will also estimate the caloric values of the processed food.

Hopkins, Kenneth D. (Northern Colorado): [70] (see Hayes, C. Vance)

Hosler, Dorothy (Massachusetts Institute of Technology)

During the period between 900-800 B.C., metallurgy was introduced to West Mexico; one component from Colombia, the other from southern Ecuador and northern Peru. The first metallurgical sites come from Cerro de Huéibre, Tornantán, Anupa and the Infiernillo sites. The timing of metallurgy's introduction presupposes disruptions or alterations in preexisting exchange systems and items of exchange either within West Mexico, between West Mexico and these more southerly regions or...
both. The evidence presented here suggests that the decline of Teotihuacan may provide one of the factors responsible for timing of metallurgy's appearance.

Houk, Brett A. (Texas-Austin) and M. Kathryn Brown (Texas-San Antonio) [113] Preliminary Report on Investigations at Dos Hombres, Belize
Dos Hombres is a medium-to-large-size Maya site located in northwest Belize. Excavations to date have focused on investigating the four plazas at the site and the surrounding structures. Researchers hope to determine the social function of each plaza in order to better understand site planning, site function, and the role of Dos Hombres in the ancient Maya political landscape. This preliminary report will discuss the data collected thus far and the tentative conclusions reached concerning the concepts discussed above, the culture history of Dos Hombres, and the possibility of a regional template for site planning.

Houston, Stephen D. (Brigham Young) [50] Feasting, Alliance, and Giftgiving Among the Classic Maya
Classical political and social organization depended heavily on reciprocal and unilateral giving in objects, food, and drink. This paper examines the dynamic setting, material substance, and theoretical context of such prestations and exchange. New interpretations reveal hieroglyphic expressions for feasting and goods, many to be discussed here.

Arizona is recognized throughout the nation for having a successful public archaeology program. Public participation in preserving Arizona’s past has been, and continues to be, a crucial aspect of the state’s public awareness and protection of Arizona’s cultural resources. The public’s role in these endeavors is a major focus of the various components of the state’s public archaeology program, one of which is the annual celebration of Arizona Archaeology Awareness Month and its associated Archaeology Fair. This paper will discuss the role of volunteers in this outreach program, as well as the successes, the problems, and the goals for the celebration.

Howard, Jerry B. (Mesa Southwest Museum) [93] Agricultural Strategies in Holohok Irrigation Agriculture
The Holohok irrigation agriculturalists of the Sonoran Desert adapted a unique agricultural strategy that utilized large and labor-intensive irrigation networks. New information concerning the engineering and operation of these complex systems is presented. Paleohydraulic reconstructions are used to evaluate channel design, measure system capacity and examine water flow characteristics. The modification of channel design approaches to accommodate local topographic conditions is discussed. A computer simulation of crop production and storage potential are used to evaluate agricultural risks and explore questions relevant to the Holohok collapse.

Howard, Virginia (California-Los Angeles) [133] Steatite Vessels: Issues of Production, Trade, and Control on Santa Catalina Island
The investigation of steatite vessel craft constitutes one of the most significant economic developments in the Southern California Bight in the Late Prehistoric Period. While long recognized as important components of sites on the mainland and the island, a systematic regional approach documenting vessel production and trade was absent. Cross-cultural trade of these vessels illustrate unexpected patterns of economic interaction with coastal populations. Investigation of the areal extent, material selection, and stages of vessel production offer insights into the extent and organization of production; providing implications for economic control on the island.

As compared with nonelite households, elite residential architecture tends to show greater labor investment, especially in aspects symbolizing status and social meaning. Thirteenth century Mesa Verde Pueblo architectural complexes in southwestern Colorado compared to determine if there was evidence of elite households. Variation in relative construction effort, masonry selection and quality, and shaping of stones suggests a moderate level of social or functional differentiation among residential units, but the presence of a residential elite is not supported.

Huckell, Bruce B. (Maxwell Museum of Anthropology) and C. Vance Haynes, Jr. (Arizona) [126] The Ventana Complex: New Dates and New Ideas on its Place in Early Holocene Western Prehistory
The 1941-1942 excavation of Ventana Cave in southwestern Arizona revealed an undated deposit,

the Volcanic Debris Layer, containing artifacts and bones of extinct animals. The stone tool assemblage, defined as the Ventana Complex, was subsequently dated to approximately 11,000 B.P. We have augmented the chronometry of this deposit, and reexamined the artifact assemblage. Nine AMS radiocarbon dates suggest that the deposit is probably 8,500-9,500 years old, and that the sequence of occupations at the site resembles occupations at other early faunal sites in western S. The implications of these results for understanding early Holocene hunter-gatherers in the arid West are presented.

Hudler, Dale B., Thomas R. Hester, and Harry B. Iceland (all, Texas-Austin) [37] Preceramic Settlement at Colha, Belize: The 1994 Investigations
Two seasons of excavations funded by the National Science Foundation have provided new information on the pre-Maya, or preceramic components at the site of Colha, northwestern Belize. These excavations are linked to initial agriculture at the site, dating between 2500-1500 B.C., around the margins of adjacent Cobweb Swamp. The archaeological remains are stratified below early Middle Preceramic activities at this site. Distinctive tools, known as constricted bifaces, were made and used by these early peoples. Field and laboratory research in 1994 have better defined preceramic settlement and technology.

Huff, Donna L. (Georgia State) [129] Analysis of Farm Remains and Site Formation Processes: Medical College of Georgia Renovation of the original building of the Medical College of Georgia in 1989 exposed human remains that had been illegally procured and sold for anatomical study in the nineteenth century. Faunal remains including both wild and domestic species were also found in association with human skeletal material. Analysis of the faunal assemblage indicated the presence of both butchering and dissection marks on the bones suggesting their use for comparative dissection. Preliminary investigations of the site formation processes revealed a unique combination of rodent activities and human behavior in the formation of the Medical College midden. This paper examines aspects of nineteenth century dissection practices and offers a new perspective on formation of midden deposits for medical context.

Hufnagel, John (Southern Methodist) [30] Testing More Information out of Tree-Ring Dates to Better Understand Aggregation
To better understand the processes of aggregation in the American Southwest, the construction sequence at important sites must be understood. In her cornerstone 1991 study, Virtue analyzed the construction sequence at Pot Creek Pueblo, a multicomponent northern Rio Grande site dating between A.D. 1290 and 1325. Using this data, we now know more about when people built their homes in that community. The new data include an estimate of a range of probable cutting dates (i.e., "weddling dates"

Hughbanks, Paul J. (Tulane), Pamela J. Butts (Texas-Austin), and Jennifer Lundal (California-Los Angeles) [113] Landscape Modification and Community at Guajirr, Belize
Existing data from the Maya Lowlands have recently been interpreted to indicate that the availability of water may have partially dictated the organization of ancient Maya settlements. More encompassing role undertaken by Maya elites in the control of resources, i.e., land, water, trade, etc., and the development of civilization are examined from the perspective of rural settlement in NW Belize. In this vein we examine the intra-site relationships between land, water, and social organization at the Lowland Maya site of Guajirr, an ancient rural village of Maya civilization.

Hughes, Richard E. (Geochemical Research Laboratory) [123] Issues of Reliability, Validity, and Scale in Obsidian Sourcing Research
Obsidian provenance analysis depends explicitly on the reliability and replicability of measurement units, but early concerns for these issues were largely implicit. It has become clear, however, that
measurement units appropriate for one scale of analysis (a local area) may fail to provide valid measures when the scale and scope of research is expanded to a larger spatial universe (a region). This paper explores some aspects of the relationship between reliability and validity at varying spatial scales, and considers how geologic and geochemical factors impinge on conclusions archaeologists draw from sourcing studies.


During data recovery excavations at the site of the proposed Pennsylvania Sports Hall of Fame, it was found that significant archaeological remains also extended into the area to be disturbed by a parking garage. This area was not included in the current mitigation plan and involved disturbance in the form of 24 concrete columns to support the elevated structure. To facilitate the issuance of state permits and the maintenance of the construction schedule, the PASIPO and the City of Harrisburg agreed to allow garage construction to proceed while SHPO archaeologists conducted data recovery excavation and public tours under the elevated structure.

Hunt, Chris O. (University of Huddersfield, England): [76] (see Momoh, Randolph E.)

Hunt, Tim (Washington): [10] (see Madsen, Mark); [22] (see Lipo, Carl)

Hunt, Tim, Mark Madsen, and Carl Lipo (all, Washington)

[72] Examining Cultural Transmission Using Frequency Seriation

Seriation is commonly used to order archaeological assemblages. However, when derived from a robust theory of cultural transmission, seriation becomes a general tool for exploring degrees of interaction between individuals and groups. A network model of transitive change with varying spatial and temporal patterning. By comparing simulated and actual archaeological assemblages we examine the degree to which the assumptions of seriation are met and how deviations from these assumptions inform the underlying structure of transmission. Spatial structure, cultural narratives, and seriation are investigated using a theoretically informed seriation method.

Hunter, Andrea A. (Northern Arizona), Michael P. Eastman (Northern Arizona), Sheri A. Mays (Northern Arizona), Beth A. Reiche (Emory), and Bernadette C. Slater (Northern Arizona)

[136] Electron Spin Resonance (ESR) Spectroscopy Applications in Paleolithic Industry

Electron spin resonance (ESR) spectroscopy is currently being used to explore thermal histories of archaeological sediments recovered from human coprolites. This technique is being applied in a study of coprolite macroremains recovered from Southwest archaeological sites. ESR experiments were conducted on modern seeds prepared by a variety of food processing methods. The results indicate that ESR signals from archaeological specimens. Distinct signals were obtained from modern seeds and matched with archaeological signals. Experiments indicate that ESR g-value, line width, spin intensity, and line shape are useful parameters which identify maximum temperature and duration of heating associated with differential food processing methods.

Hurley, William M. and Bing Wang (both, Toronto)

[77] Data Banks and the Japanese Ceramic Shiki Concept

The Jomon Cultural Tradition with its distinctive ceramics is one of the world’s oldest and longest Neolithic manifestations. Jomon means string, cord, knots, nets, etc., and based on the type of decoration, its location and vessel shape, ceramics grouped into shiki are what Peter Bleed describes as unique ceramic attributes which are typical of it. However variations within a shiki cannot be specifically described and any links can only be dealt with in general terms. Our research on the Hokkaido Yagi site ceramics attempts to rectify and clarify specific similarities and differences and temporal subdivisions.

Hurst, W. Jeff (Hershey Foods Technical Center), Robert A. Martin, Jr., and Stanley M. Tarka, Jr.

[54] Analytical Studies on Samples from Rio Azul Tomb 19

A series of analytical studies were on samples obtained from Rio Azul Tomb 19 to determine their composition. Since there was an indication that these samples might be cocoa, the investigations focused on the determination of theobromine and caffeine. Using HPLC with photodiode array (PDA) and mass spectrometry (MS) detection, we determined that several of the samples contained these compounds which gave a positive indication of cocoa. Additional studies focused on the determination of amino acids, lipids, and colored materials.

ABSTRACTS OF THE SAA 69TH ANNUAL MEETING

Hyland, David C. (Gannon) and J. M. Adovasio (Mercyhurst)

[30] Perishable Industries From Pendejito Cave, New Mexico

Over 450 perishable artifacts were recovered from the 1990-1993 excavations at Pendejito Cave (FB9-3660), New Mexico. The assemblage includes cordage, basketry, sandals, and miscellaneous fiber objects. Accordingly, nearly 12,000±110 B.P. (UCR-2002), specimens from the Paleoindian levels are among the oldest perishables recovered from the Greater American Southwest. Levels associated to the Archaic and Early Formative periods—times for which there has been a scarce recovery of perishable items from eastern New Mexico—yielded an important new corpus of perishable data. The artifacts are described in terms of technological process and product, correlations are made with coeval assemblages from elsewhere in the Arid West, and the data are discussed vis-a-vis the Archaic antecedents of the Jornada Mogollon.

Hyland, Justin R. (California-Berkeley)

[17] Rock Art and the Hunter-Gatherer Research Agenda

The success of the recent theoretical and methodological reorientation of rock art research largely depends on what extent it encompasses issues of broader anthropological significance. This reorientation has largely coincided with revisionist discourse taking place within hunter-gatherer studies in general, in which entrenched assumptions of hunter-gatherer egalitarianism, simplicity and stasis have been problematized and new formulations proposed. With important exceptions, however, the participation of rock art research in this discourse is far from fully realized. Specifically, it is argued that hunter-gatherer rock art comprises a crucial body of evidence bearing on broad issues of variability and change in hunter-gatherer social formations.

Hyman, Marian (Texas A & M): [17] (see Rowe, Marvin W.)

Iannone, Gyles (University of London)

[37] An Assemblage of Ancient Maya Ritual Enema Paraphernalia from Zubin, Cayo District, Belize

Recent excavations at the ancient Maya "minor center" of Zubin, Belize, have uncovered an Early Classic (300-600 A.D.) assemblage of grave goods both functionally and iconographically linked to the hallucinogenic enema ritual so often depicted on Late Classic (600-900 A.D.) ceramic vessels. This context not only provides us with one of the few archaeological assemblages of ritual enema paraphernalia, but it also suggests that this method of vision questing was, from an early time, not confined to the upper sociopolitical stratum of ancient Maya society.

Ireland, Harry B. (Texas Austin)

[66] Preliminary Analysis of the Lithic Artifacts from Tetimpa, Puebla

Preliminary analysis of the lithic artifacts from Tetimpa focuses on the considerable variety of tool types and production processes evident in this small collection. Analysis of the intrasite distribution of this lithic material in relation to structures, features, and other artifacts in combination with use-wear and residue studies, appears to provide an unusual opportunity to consider tool functions in a variety of household subsistence and craft activities. XRF testing of a sizeable sample of obsidian artifacts is providing data on sources explored and possible exchange networks.

[37] (see Hadley, Dale B.)

Idol, Bruce and J. Neil Woodall (both, Wake Forest)

[129] Late Woodland and Lamar in Northwestern North Carolina: Archaeological Correlates of an Ethnographic Fuzzy Set

The upper Yadkin River valley (North Carolina) presents an opportunity to study the social interactions between culturally labeled broadly as Late Woodland and South Appalachian Mississippian, or Lamar. Investigations conducted in this area by Wake Forest University have focused on the nature of social interaction between areas traditionally bounded by conventional archaeological terminology. Our goal is to provide a more realistic version of how societies were arranged and organized. The concept of the "fuzzy set" as used in ethnography is more useful than phase designations in marking this area of social relations.

Ilett, Michael J. (Université de Paris I): [81] (see Demoule, Jean-Paul)

Iwamoto, Takeshi (Vanderbilt)

[52] Population Estimate for the Classic Maya Lowlands: New Data from Aguateca, Guatemala

Although our knowledge of lowland Classic Maya settlement patterns has increased considerably, the question of how to convert structure counts into population figures remains unsolved. Excavations at Aguateca, Guatemala, revealed rapidly abandoned structures with rich assemblages of in situ artifacts, providing important data with which to assess the number of individuals per
household and the percentage of nonresidential structures. Evidence suggests a lower population figure than previously expected.

Irish, Joel D. and John W. Holmman (Louis Berger & Associates)

[43] Reliability of Three Remote Sensing Techniques at Old Las Vegas Mormon Fort State Park

Two independent remote sensing surveys, using magnetometry, ground penetrating radar, and soils resistivity, were conducted at the Old Las Vegas Fort site in Las Vegas, Nevada. One survey was conducted after the removal of over one meter of sterile overburden. The Mormons operated a mission at the site from 1825 to 1837. Several structures were later built on Fort foundations, and the site was continuously occupied until 1955. Both surveys were followed by archaeological subsurface testing, which resulted in a methodological study that tested the reliability of remote sensing techniques in predicting the presence of buried archaeological features under varying field conditions.

Issell, William H. (SUNY-Binghamton)

[65] Iawadi: Adaptive Evolution or Resistance to Hegemony

Does Iawadi possess a Tswana III component that participated in regular evolutionary formation of a vast state, or does it reveal a complex and conflicted struggle by local peoples to resist hegemonic pressures? Does subsequent popularity of Tswana symbols represent adaptive management by state bureaucrats or the imposition of external control by aggressive foreign elites? These alternatives represent a larger question. Has viewing regional cultures as local evolutionary antecedents of classic Tswana contributed to an assumption about the inevitability of state evolution and hidden people, conflict, and variability in early Bolivian prehistory?

Isembinger, Bill (Cahokia Mounds Historic Site) and John Kelly (St. Louis)

[18] The Cahokia Palisade: Partitioning the Sacred Precinct

This paper investigates the central palisade at Cahokia as a relatively late construction. Its sudden erection resulted in a number of changes within Cahokia’s overall configuration, particularly the positioning of the site’s peripheral plaza. The palisade appears to have coincided with significant social and political changes occurring within the American Bottom as well as the development of other regional features. As an alternative model to the prevailing view as a barrier to cultural decline, this paper will examine Cahokia as a rejuvenated Mississippian center in line with concomitant Mississippian societies.

Jackson, Douglas R. (Illinois-Urbana/Champaign) (see also Emerson, Thomas E.)

[59] Variation Within the Late Woodland Period in the American Bottom

The Late Woodland period in the American Bottom is currently defined as encompassing a temporal span of approximately 500 years. In general, cultural developments in the American Bottom mirror those of other Woodland periods in the Midwest. The three American Bottom Late Woodland phases have been defined as: early, middle, and late. The early phase is characterized by the presence of monochrome pottery, while the middle phase is characterized by a mixture of monochrome and polychrome pottery. The late phase is characterized by the presence of polychrome pottery.

Jackson, Lawrence J. (Northeastern Archaeology Assoc.) and Christopher J. Ellis (Western Ontario)

[87] Geomorphology, Geochronology, and Great Lakes Paleoindians: Crossing the Space/Time Barriers

Geochronological investigations have played a significant role in the development of Great Lakes Paleoindian studies. This paper explores the nature of Early Paleoindian relationships to a variety of late Paleolithic geological features, including the preglacial Great Lakes. Chronological and environmental implications are considered in the light of recent discoveries.

Jacobson, George L. (Maine)


Landscapes of the Great Lakes—New England region changed rapidly and differentially with the demise of the Laurentide ice sheet. Paleovegetational reconstructions using modern mapped pollen data reveal strong differences from east to west throughout the period from 14,000 to 9000 B.P., with open wooded conditions and sparsely wooded persistent in northern New England and the southern Maritime provinces. Spores forests and woodlands were important across the region as late as 9500 B.P. Pine became abundant in New England by 12,000 B.P., spreading westward coincident with the expansion of birch after 11,000 B.P.

Jahren, Hope and Ron Amundson (both, California-Berkeley)

[131] Determining Climate from Hackberry Phytoliths

The endocarp of the Hackberry ( Celtis ) fruit contains phytoliths which are composed of the minerals quartz and opal and are commonly found in Quaternary sediments. The unique minerology of Hackberry phytoliths allows the possibility of paleoclimatic reconstruction through chemical analyses. We have pursued this in several ways: through controlled field studies on modern trees, and through morphological and chemical analyses of large sets of both modern and fossil Hackberry endocarps. We present here a summary of these endeavors, stressing our assessment of the use of Hackberry endocarp phytoliths from archaeological sites for climate indication of the environment of past peoples.

James, Dennis (Texas A & M) [92] (see Blevington, Robbie L.)

[79] Prehistoric Pueblo Households and Social Organization: New Perspectives for Model Building

Social organizational variability observed in the pueblo ethnographic record is examined for ascertainment of the organization of prehistoric pueblo households. Problems with the static late 19th century view of ethnoarchaeological studies used for interpretations of the past are first examined. From the revised ethnographic models, differences in several key factors (e.g., mean room size, core processing and storage facilities, and types of ceremonial rooms) are proposed to account for regional variation in prehistoric households. Across the Southwest and tested with quantifiable data from 350 sites. Causal factors proposed to explain these regional differences include division of labor by gender and type of warfare.

Jansen, Henrik M. (Svensborg County Museum)

[27] Ships, Trade, and Towns in Viking Age Denmark

It is a tradition to let the Viking Age in Denmark begin about 800 A.D. Research with the last decade has shown, however, that the structure of the society, especially the social and political changes occurring within the American Bottom and the identification of specific social organizations, have been crucial in understanding the development of Viking Age society. This paper discusses the findings of recent research in the Viking Age in Denmark and their implications for our understanding of Viking Age society.

Jansen, John Wayne (Chicago)


Drawing on extensive archaeological excavations, this paper examines the social interaction of local and regional communities (residential and regional) in two great urban centers of the world. The study is based on the key role of urban centers in the development of Tiwanaku culture, and the concept of regional interference in these urban centers.

Jansne, Ronald W. (Kentucky)

[18] Mississippian Adaptation on the Northern Periphery: Settlement, Subsistence, and Interaction in the Cumberland Valley of Southwestern Kentucky

Three years of research in the Upper Cumberland Valley of southwestern Kentucky are presented. The research is based on the key role of urban centers in the development of Mississippian culture, and the concept of regional interference in these urban centers.

[65] (see Alcorn, Sonia)

Jeffries, Richard W. (Kentucky)

[18] Mississippian Adaptation on the Northern Periphery: Settlement, Subsistence, and Interaction in the Cumberland Valley of Southwestern Kentucky

Three years of research in the Upper Cumberland Valley of southwestern Kentucky are presented. The research is based on the key role of urban centers in the development of Mississippian culture, and the concept of regional interference in these urban centers.

Jenkins, Leigh (Hopi Tribe) [48] (see Disscussion)

Jennings, Richard P. (University of Auckland) [60] (see Lofdog, Theun)

Jeske, Robert J. (Indiana-Purdue at Fort Wayne) (see also Kusnir, Lawrence A.)

[36] Microwear Analysis of Lithic Artifacts from the LaSalle County Home Site (11L141).
Test excavations at the LaSalle County Home Site (11L514) on the Upper Illinois River revealed a possible Mississippian house building and associated debris. A sample of stone tools from the excavated house were examined using both low power and high power microscopy in order to determine their production by prehistoric people living near the river. Raw materials and other attributes were also studied in an overall analysis of the lithic assemblage. This analysis helps to clarify the role of lithic economy in the overall economy of Mississippian occupants of the Upper Illinois Valley.

Jochim, Michael (California-Santa Barbara) [117]

The Transition to Agriculture in Central Europe

The traditional model of agricultural origins in Europe that emphasized population immigration and replacement has been seriously reevaluated in many parts of the continent in light of growing evidence of contributions by local populations. In central Europe, however, the traditional model has remained dominant. Recent work, however, suggests that this model is, at the very least, too simplistic. This recent work will be discussed.

[103] Discussant

Jodry, Margaret (American) [9] (see Stanford, Dennis)

Johnson, Byron (WCRM) [126] (see Towner, Ronald H.)

Johnson, Craig M. (BRW, Inc.) (see also Atler, Stanley)

[110] Plains Village Settlement Patterns in the Middle Missouri Subarea

This paper provides a brief history of the Plains Village Occupation in the Missouri River in the Dakotas. Evidence of the earliest occupations (A.D. 1000-1500) suggests low population densities on the order of two to four contemporaneous villages per region. The period from A.D. 1500-1600/1650 is characterized by dispersed settlements and the beginnings of nucleated communities, perhaps reflecting different responses to epidemic diseases. During the protohistoric period (A.D. 1600/1650-1800), some villages are compact and fortified, while others remain unfortified. These changing settlement patterns have implications for locational analyses.

Johnson, Eileen (Texas Tech) [9]

Southern High Plains Paleoindian Subsistence Patterns

Lubbock Lake, southern High Plains of Texas, contains a series of Paleoindian subsistence activity areas within primarily well-stratified deposits that span the late Pleistocene to early Holocene. Hunting is the primary economic activity preserved in those deposits, with two major patterns that indicate different subsistence bases. The late Pleistocene pattern is that of a broad spectrum, meat-related subsistence base involving a variety of large game animals. The early Holocene pattern is that of a focused, meat-related subsistence base involving one large game animal but a variety of small-animal resources. These differing subsistence bases are used to infer changing social organization.

Johnson, Gerald H. (William & Mary), Joseph M. McCrory (Archaeological Society of Virginia), M. Scott Murri (Delaware), and Kevin Jones (William & Mary) [87]

Geology of the Cactus Hill Archaeological Site (44XS202) Sussex County, Virginia

Cactus Hill has yielded cultural material dating to 11,000 years B.P. The artifacts occur in the upper 7 m of an approximately 20 m thick stratified sand that mantles east-west trending ridges and swales. The site lies on the east bank of the entrenched (4 to 5 m), north-facing Nottoway River. The fine to medium quartzite sand rests on a palaeoform formed on an undisturbed Pleistocene sandstone. The main size of the sand decreases and the sorting, rounding, and steepness increases away from the river. Archeological artifacts are about 30,000 years B.P. and by 11,000 were well-drained substrate for early inhabitants of the area.

Johnson, Ian (University of Sydney, Australia) and Margrit Koetzig [47]

Hunting for Pattern in Lithic Waste: A Comparison Between Multivariate Methods and In-Depth Analysis Through Refitting

Using 26 refined assemblages from the Hunter Valley (Australia), we test statistical approaches to the analysis of lithic waste against detailed knowledge of the reduction sequences and established reduction strategies. These samples provide a controlled environment to assess the effectiveness of different methods. Lithic reduction generates a shifting, cyclical point cloud in multivariate space.

These data are not particularly amenable to typological classification, nor can the structure be adequately captured by comparison of individual variables or ratios, or by summary statistics. Our approach aims to classify these assemblages directly in relation to point cloud structure and identify a reduced attribute set adequate for this purpose.

Johnson, Ian (University of Sydney, Australia) [72]

Quantitative Methods and Computers in Archaeology - A Set of Teaching Modules

The poster presents a set of teaching modules developed to introduce undergraduates to quantitative methods and the use of computers in archaeology. Modules are designed as complete packages including a textbook and student workbook and test and assignment materials. An accompanying CD provides background information, explanations, and bibliographic references for each topic. Modules developed so far: an overview of quantitative methods in archaeology; introduction to computers and basic computer skills; data recording and databases; basic statistical descriptive statistics and graphs; linking graphical and attribute data. The modules use a problem-solving approach applied to real data to encourage student involvement.

Johnson, Jessica S. (Texas Memorial Museum) [58]

Conservation of Archaeological Bone

Excavated bone can be fragile and recovery may require measures to ensure preservation of morphological structure. "Preservatives" are commonly used, but other techniques such as exterior supports and/or dry-preservation have been used. Recently, a new technique has been developed for preserving bone that can be used on fragile bone that is being used at present. This will also discuss the properties of and problems with many of the preservations being used at present. There is no cure-all technique or practice to ensure preservation of all of the data contained within archaeological bone, but considered alternatives will allow for better preservation of the physical and chemical structure.

Johnson, Kerstin [54]

Archaeology in the 21st Century: The Critical Role of Public Relations

Solid public relations outreach activities will become a necessary element for archaeological endeavors in the ensuing decades. Archaeology must recognize the value of implementing public relations strategies and tactics. Through heightened public support, awareness and appreciation, we can better protect archaeological sites and promote environmental laws; greater public support has translated into improved public education and involvement; and more effective fund-raising efforts. This paper will propose targeted public relations techniques that may be employed so as to promote the success of archaeology.

Johnson, Lucy Lewis, Kathryn Leonard, and Alexandra Clun (all, Vassar) [133]

Salmon Fishing at Squaw Harbor: Resistivity and Net Weights

On Unga Island in the Shumagin Islands, southwest Alaska, two sites flank a salmon stream. Most local sites show patterns of house pits surrounded by anthropogenic vegetation. These two sites have two house pits with large adjacent areas of anthropogenic vegetation. In 1989, Johnson hypothesized that they represented summer fishing camps with small-year-round settlement. In 1994, we mapped and resistivity surveyed one site. We test excavated a trench across an area which showed variation in its resistivity readings. This trench (1) demonstrated that high resistivity indicated large rocks close to the surface, and 2) revealed a concentration of stone net weights, supporting the hypothesis of a fishing camp.

Johnson, Kevin (Minnesota) [34]

Political Power and the Structure of Writing: Dominance, Persuasion, and Recording in Mesoamerican Index Societies

In Aztec, Zapotec, Mixtec, and Maya societies an inverse relationship existed between the centralization of political power and the morphological elaboration of writing systems, which is defined in terms of the documentation of spoken language. Surprisingly, the Aztec pictorial writing, which served as a visual documentation of the central authority, was one of the region's least elaborated systems, while the Maya phonetic system, employed by poorly centralized, unstable states, was the most elaborate. This relationship between power and writing morphology contradicts the expectations of most historians of writing. As this paper demonstrates, the social requirements of political systems structured not only the content but the morphology of early Mesoamerican writing systems.

Jones, Deborah L. (Arizona State) [35]

Production and Change of Glaze-Decorated Ceramics at Quarai Pueblo, New Mexico

This paper addresses the scale of production and exchange of glazed-decorated ceramics manufactured from A.D. 1520-1670 at Quarai Pueblo. Electronic microprobe analysis of glaze composition, examination of glaze physical properties, and coding of surface decoration are used to identify the number of potters who produced these products. The products were manufactured at Quarai and exchanged to Guan Quiviva.
a contemporaneous Rio Grande pueblo, in order to determine what proportion of the total Quarai potting population was involved in intraregional ceramic exchange.

Jones, Kevin (William & Mary): [87] (see Johnson, Gerald H.)

Jordan, James W. (Wisconsin-Madison): [100] (see Maschner, Herbert D. G.)


This paper examines the history, technology, and society of coffee agriculture and manufacture in the Cerrillos Valley of eastern Puerto Rico. Drawing from archaeology, archival history, oral history, and landscape studies, this paper explores the ways in which social structure and cultural traditions shaped the development of coffee agriculture in the region. The study emphasizes the role of technological innovation in transforming the local environment and the social organization of the region.

Joyce, Arthur A. (Vanderbilt): [82] (see Mueller, Raymond G.)

Juan, Jordi: [131] (see Albert, Rosa Maria)

Judkins, Constance K. (Texas A & M) [92] A Missing Piece: Endemic Disease Among the Mimbres

Understanding the health of a population is necessary for development of meaningful models of cultural interaction. This study examines the incidence of endemic disease among the Mimbres people, as evidenced by dental lesions, to assess the impact of environmental factors on health.

Junkar, Laura (Vanderbilt): [50] Discussant

Justin, Michael A. and Robert G. Thompson (both, Woodward-Clyde Consultants) [120] Fine-Screen Recovery of Faunal and Lithic Material at a Multi-Component Woodland Habitation

The Roosevelt Lake Narrows Site, in Cass County, Minnesota, is a multi-component woodland habitation. Located on a lake shore, the site was expected to yield abundant fish remains. However, only a few vertebrates were recovered, and most were fish bones. The screen recovery technique used yielded more than twenty additional fish bones. This method of screening remains effective in recovering small bone fragments.

Kaiser, Timothy (Royal Ontario Museum) and Stato Forensich (Southern Methodist) [76] Palagruza and the Early Bronze Age of the Adriatic

The Adriatic is sometimes stigmatized as a backwater in the history of the Mediterranean. Recent research in the southern Adriatic suggests that this was not the case. Survey and excavation on the island of Palagruza and other neighboring islands in the central Adriatic suggest that the Mediterranean world system had a precursor there by 2000 B.C. as Dalmatian and Italian groups began to exploit the navigational possibilities afforded by these islands and to use their resources. The Mediterranean world owes its development in part to the maritime connections formed by its inhabitants, connections which are apparent early in the Adriatic.


Lithic raw material variety and abundance reveals the technological utility of different source materials from twenty chipped stone surface collections in the Silver Creek area of east-central Arizona, from sites dating between the 9th and 14th centuries. A rich raw material environment provides distance-from-source constraints, freeing the debate analysis from traditional spatial and temporal considerations. Rather, the intensity and character of chipped stone technology reflects the impact of social organization, community size, and lithic traditions in assemblages from a Lithic Rich Environment.

Kaltenberg, Russell L. and Donald Manuel (both, Bureau of Land Management) [132] What Do We Tell the Teachers? What Do the Children Learn? Approaching the Community with Archaeological Data Carefully and Cautiously

The primary focus of BLM's cultural resource management program in northeast California is compliance with legislative mandates. Recently, the bureau has moved beyond compliance to working with local schools to bring archaeology alive. This paper discusses approaches to education that are working locally and suggest some trends that might be applicable elsewhere.

Kalogiron, Ada (Cincinnati) [119] Greek Neolithic "Cheese Pots": A Reevaluation of the Evidence

Neolithic pottery with "cheese pots," a type of vessel that has been linked to the production of cheese, is examined in this study. Evidence from Greek Neolithic sites suggests that cheese production was an important part of the economy during the late 5th and 4th millennia B.C. Examination of the characteristic pots reveals that they are a highly diverse group. This conclusion finds further support from faunal evidence available from Neolithic Greece.

Kanter, John (California-Santa Barbara) [111] Political Competition Among the Chaco Anasazi of the Southern San Juan Basin

A political model of competition is proposed to explain the development of the Chaco Anasazi of the American Southwest. A model derived from Darwinian theory and political competition, and focuses on the transition from egalitarian societies to those exhibiting coercive forms of leadership. The importance of the physical and social context for structuring individual decision making is emphasized. The model is evaluated through analysis of Chacoan communities in a portion of New Mexico's southern San Juan Basin. The study suggests that political competition between aspiring leaders contributed to the evolution of the Chaco Anasazi.

Kantor, Lois M. [21] Lithic Specialization and the Growth of La Quemada

Archaeologists often expect that politics exhibits social ranking and economic stratification utilize specialization of production to create and sustain social inequality. Given that La Quemada was an elite residential center of monumental character, it is expected that economic specialization developed over the course of its growth between A.D. 550 and A.D. 850. Chipped stone materials have been studied for the potential of evaluating changing degrees of specialization occurring in the production of stone tools. Results indicate that, although some degree of economic specialization probably occurred at La Quemada, such specialization did not extend into stone tool production.

Kaplan, Lawrence (Massachusetts) [82] Phaseolus Beans, Accelerator Dates in the Americas

AMS dates are being determined for four bean (Phaseolus) species from sites in Mexico and South America. A number of dates including some often cited, are substantially more recent than previously estimated by indirect means. A set of more than 30 dates is presented and discussed with reference to the development of prehistoric agriculture and centers of domestication for wild species.

Kardulias, P. Nick (Kenyon) [31] Stone Tools In Ancient Greece: Local Production, Technological Traditions, and Regional Economies

Contrary to conventional thinking, the use of flaked stone tools did not cease with the advent of metal implements in the Aegean area. Recent work at two major sites in Greece (Isthmia and Haliai) provides an important comparative base to investigate this matter. Morphological study indicates that the variety of tools served a number of functional purposes, from religious, to social, and ritual contexts. The analysis sheds light on a small but significant part of the economy of Classical society. Part-time specialists continued to produce an array of lithic implements that were an affordable alternative to metal tools.

(see Yerker, Richard W.)

Katsen, Anne (Calgary) [19] Skeletal Evidence for Anasazi Violence in Southwestern Colorado

Biological evidence, in the form of perimortem trauma to the skeleton, and cultural evidence, in the form of burial context, indicate that interpersonal conflict was a factor in later Anasazi life. Two sites in southwestern Colorado, Sand Canyon Pueblo and Castle Rock provide such evidence. At Sand Canyon, a contrast between intentional burials, where people are placed in a fixed position, often with grave goods, and probable homicides, where there is perimortem trauma and...
lack of intentional placement of burials. At Castle Rock, burials are commingled and largely incomplete with perimortem trauma and postmortem scatter, partly from scavenging carnivores.

Kay, Marvin (Arkansas)

[110] Middle Missouri Subarea Fortifications and Warfare

The Crow Creek massacre is useful in identifying the most desired sequence of fortification construction and the status of village fortification compared to other evidence (the burning of a village, scalping, mass burials, etc.) of warfare. These criteria allow warfare to be recognized as a major social regulatory mechanism. Warfare led to the separation of Coalescent and Middle Missouri traditions populations, the maintenance of buffer zones and defensive outlier villages, much as Lehner predicted. It became more frequent as populations increased and environment and climate deteriorated between the 11th and 15th centuries.

Kealhofer, Lisa (William and Mary)

[96] The Holocene Paleoenvironment of Northeastern Thailand: Preliminary Phytolith Evidence from Lake Kumphawapi

Debates about the context in which rice agriculture developed have a long history in southeast Asia. Only recently has the paleoenvironmental evidence been considered in these discussions. In 1993-1994, paleoenvironmental fieldwork in northeast Thailand, the first phase of a multiregion project, was initiated to resolve some of these issues. This paper will present the preliminary results of a 10,000-year sequence of environmental history based on phytolith evidence. The cores from the Ban Chiang region provide the longest sequence of environmental changes to date from mainland southeast Asia.

Keeley, Lawrence H. (Illinois-Chicago) [85] (see Phillips, James L.) [1117] Discussant

Keene, Arthur S. and Elizabeth S. Chilton (both, Massachusetts-Amherst)

[102] Toward an Archaeology of the Pocomtuck Homeland: Excavations at the Pine Hill Site

In the 17th century, what is now the town of Deerfield marked the center of the homeland of the Pocomtuck people. The story of the Pocomtuck has been largely a footnote to the history of the Pocumtuck people. English expansion into the Connecticut River Valley. Ethnographic representations have been scanty and archaeological sites scarce. Here we report on our efforts to write an archaeology of the Pocomtuck homeland. We describe long-term research at the Pine Hill site—a multicomponent site located at the center of the historic homeland—and summarize new findings on Late Woodland artifact variability, feature function, and subsistence.

Keener, Craig (Ohio State/Ohio Department of Transportation) [14] (see Butterworth, Kileen R.)

Kehoe, Alice B. (Marquette)

[23] A Resort to Subterranean Confinements

Yehezkel remarked that high status and power may be communicated by "a resort to subterranean confinements" rather than ascension, or subterraria used to display superiors' wealth. Ethnographically, the Blackfoot are an example of a society where power is signified through simile and metaphor, e.g., the Sun Dance, Holy Woman's dress, and power are flamboyantly ornamented. Some of the finest Plains Indian craftwork may be the work of "third gender" men called to the vocation of craftworker. Medicine objects such as pipes and themselves powerful, their caretakers constrained to mediate roles. Interpretation must be cautious.

Kelertas, Kristina (California-Los Angeles)

[35] Prehistoric Crops and Cattle in Thy: Transforming the Staple Base for a Political Economy

I will demonstrate that crops and cattle were key to the rise of chieftaincies in Thy. Inequitable redistribution was influenced by social statuses of elites to control the production, distribution, and consumption of crops and cattle. During this rise, cattle and perhaps certain crops became not only subsistence foods but items of value as wealth indicators. Based on the examination of 900 macrobotanical samples and faunal evidence, I am reconstituting changing agricultural systems—from small-scale relatively extensive subsistence agriculture in the Late Neolithic, to an extensive and politically oriented system in the Bronze Age.

Keller, Christian (University of Oslo)

[1011] Cognitive Prehistoric Landscape—Theory and Methods

This paper will address the question of cognitve landscapes. Through visual analysis we have tried to approach the Iron Age landscape of Norway using Iron Age graves together with topographical analyses to establish a picture of the Iron Age attitude toward and organization of the landscape.

Kelly, John E. (St. Louis)

[59] The Bumpy Road to Mississippian: Late Woodland to Emergent Mississippian in the American Bottom

Numerous investigations over the last half century throughout the American Bottom region have provided sufficient information regarding the formation upon which Mississippian emerged. While the threads of continuity are often stressed in this elaborate cultural fabric, equally important are those elements that accentuate the breaks in this pattern. This paper will examine those aspects of the Late Woodland—Emergent Mississippian continuum that serve to highlight this distinction in the cultural landscape prior to Mississippian.

[19] (see Lintzger, Bill)

Kelly, Robert L. (Louisville) [103] Discussant

Kendrick, James W. (Southern Methodists)

[111] Chaco Era (A.D. 1050-1150) Community Structure at Lowry

Chaco-style great houses are introduced into community settlement patterns in the Mesa Verde area during the mid-12th century. The presence of multiple great houses within a single community (Lowry) has clear implications for the Chaco era challenges models of community structure and organization. Variability with architectural design, composition, and location among great houses at Lowry may have served different functions within the community. These functions may have included, but not limited to, community integration, resilience, and exchange. Communities comprised of multiple great houses contrast with single great house communities and indicate organizational variability among Chacoan communities in the Mesa Verde area.

Kent, Susan (Old Dominion)

[23] The Development of Gender Inequality and Loss of Power: Perspectives from the Kalahari

In order to study gender inequality and the lack of power, it is necessary to understand gender equalitarianism and the presence of both political and social power. By examining the role of gender in different types of societies, we can begin to establish when gender inequality and differential access to power may be identifiable in material remains and when is probably not. Through the study of different Batsiraya (Bushman) groups in the Kalahari it is possible to examine some of the factors promoting the development of gender inequality and loss of power.

Kepser, Susan (Wisconsin-Madison), Sylviane Boucher (CRY-INAH, Mérida), and Sherman Banker (Wisconsin-Madison)

[130] A Pan-Regional Comparison of Yukatan Slateware: Approaching the Cepech-Sotuta Problem through Laboratory Analyses

At mid-century, when the ceramic sequence of Northern Yukatan was established, only a handful of sites had been archaeologically explored. In the last decade, important new investigations have contributed myriad insights into the northern Maya lowlands. One persistent problem that has emerged is the new literature concerns the temporal and spatial placement of the various Yukatan workshops. It has become clear that these ceramic workshops varied from site to site. More precision is necessary to define the ceramic groups commonly assigned to the Terminal Classic "Cepech" and Early Postclassic "Sotuta" spheres, and criteria must be established for distinguishing pre-Cepech early workshops. Samples of early, Cepech, and Sotuta slates from various sites across the peninsula were submitted to firing experiments and petrographic analyses in an attempt to produce cut-out information with which to address this problem. The results are presented in this paper.

Keyser, James (Forest Service)

The Ambrose Ledger: Coup Counting on the Plains/Platte Periphery

Plains Indian biographic art spans the Historic period in rock art, hide painting, and ledger art media. This paper presents a study of a ledger book that enables us to read this art that has relied heavily on ledger books well known from Sioux and Cheyenne warriors of the 1870s. The Ambrose ledger, collected about 1910 by DeSmet from the Flathead Chief Five Crows, is one of the earliest ledger books and is key to understanding the development of biographic art and its occurrence among the Flathead—possibly the Platau tribe. Study of this ledger has introduced new dimensions to the extent and function of the Plains warfare system.

Kilduff, T. R. (Tulane)


Historical archaeology, as initially formulated, was contrasted with history, perceived as narrowly bounded and particularistic. Historians and philosophers of science, however, investigate two areas of inquiry: the nature of time and the formulation of general laws of history. This paper explores the relationship between conceptualizations of time and the structure of archaeological inquiry. In
the absence of knowledge about the initial conditions of historic events, it is impossible to explain the results in the context of covering laws. A narrative structure of explanation provides alternative interpretations of the role of historical narratives about the initial and later conditions underlying historical patterns. Reinterpreting the role of historical narrative in archaeology helps us appreciate past practices and modern interpretations.

Kievit, Karen A. (Colorado) [111] Building Relationships: Architecture, Ideology, and the Chaco System Architecture has been argued to be a readable, material language. Can one read a language without written histories? How does one read the cultural landscape to provide clues for relating symbols and written histories to ideas? This paper applies the strategies of semiotics in a search for the architectural language meanings? This paper applies the strategies of semiotics in a search for the architectural language meanings? This paper applies the strategies of semiotics in a search for the architectural language meanings? This paper applies the strategies of semiotics in a search for the architectural language meanings? This paper applies the strategies of semiotics in a search for the architectural language meanings?

Klihon, Thomas W. (Smithsonian) [40] Olmec Basalt Monument Production in the Southern Tuxtlas Region: Implications for the Growth of Pastoral Periodic Society at Laguna de los Cerros, Veracruz, Mexico The site of Laguna de los Cerros (LDLC) is located in a volcanic region rich in basalt used to carve the monumental heads, steles, and other sculptures for which Olmec culture is so well known. Until the monumental heads, steles, and other sculptures for which Olmec culture is so well known. Until the monumental heads, steles, and other sculptures for which Olmec culture is so well known. Until the monumental heads, steles, and other sculptures for which Olmec culture is so well known. Until the monumental heads, steles, and other sculptures for which Olmec culture is so well known. Until the monumental heads, steles, and other sculptures for which Olmec culture is so well known.

Kimball, John F. (ATT) [72] (see Kimball, Larry R.)

Kimball, Larry R. (Appalachian State), John F. Kimball (ATT), and Patricia E. Allen (Appalachian State) [72] Atomic Force Microscopy of Microwear Polishes The atomic force microscope (AFM) is used to analyze microwear polishes on experimental flint tools. The goals of this research are: 1) to determine the quantitative parameters of microwear polishes observed with incident light microscopy (Kesley Method), 2) to evaluate models of polish formation, and 3) to document characteristics of microwear polishes heretofore unobserved. The atomic force microscope is a surface analysis instrument which utilizes van der Waals forces, weak magnetic, and microcapillary forces to create topographic features with a resolution of 1 nanometer. Repulsive forces between molecules to discern topographic features with a resolution of 1 nanometer. Repulsive forces between molecules to discern topographic features with a resolution of 1 nanometer. Repulsive forces between molecules to discern topographic features with a resolution of 1 nanometer. Repulsive forces between molecules to discern topographic features with a resolution of 1 nanometer. Repulsive forces between molecules to discern topographic features with a resolution of 1 nanometer. The AFM was used to scan experimental flint tools to create three-dimensional digital images of the surface. These images were then analyzed to determine the quantitative parameters of microwear polishes observed with incident light microscopy (Kesley Method).

Kimmerer, Erin H. (Hamilite) [120] (see Mynder, Susan M. T.)

King, John M. (York) [85] Confictive Communion: Power, Identity, and Immaterial Possessions in an Anthropology of Maya Caching A. Weiner's (1992) concept of 'immaterial possessions' is applied to the Maya practice of caching, an anthropologists study of the site of Altun Ha, Weiner, a Pacific anthropologist, posits a category with a particular focus on the site of Altun Ha. Weiner, a Pacific anthropologist, posits a category with a particular focus on the site of Altun Ha. Weiner, a Pacific anthropologist, posits a category with a particular focus on the site of Altun Ha. Weiner, a Pacific anthropologist, posits a category with a particular focus on the site of Altun Ha. Weiner, a Pacific anthropologist, posits a category with a particular focus on the site of Altun Ha. This phenomenon may be best described by the organizing concept of the term 'caching' as symbol, event, object, and as a feature within the larger built landscape.

King, Maureen L. (Washington) [70] (see Kuntz, Michael L.)

King, Robert E. (Bureau of Land Management) [132] Heritage Education in the Far North: A Look at Alaska's Program In the early 1990s, the nation's largest land managing agency, the Federal Bureau of Land Management (BLM), inaugurated a far-reaching national program, 'Heritage Education.' It is designed with the goals of using the vast historic and archaeological resources under its jurisdiction to support the education of young Americans, and also of strengthening children's sense of identity with America's cultural heritage. This paper, using personal responsibility for the stewardship of America's cultural heritage. This paper, using personal responsibility for the stewardship of America's cultural heritage. This paper, using personal responsibility for the stewardship of America's cultural heritage. This paper, using personal responsibility for the stewardship of America's cultural heritage. This paper, using personal responsibility for the stewardship of America's cultural heritage.

Kinsley, Keith W. (Arizona State) [44] Integrating Public Education with Research Considerations for integrating public education with a range of research activities. Specific attention is given to means for addressing potential conflict between public education commitments and the research activity required for professional advancement in academic departments.

Kints, Theresa (The Underground) [74] Participant

Kirch, Patrick V. (California-Berkeley) [96] Disscussant

Kirk, Jennifer E. (Pennsylvania State) [15] Social Power and Labor Organization in Classic Maya Society: An Architectural Analysis from Copan, Honduras This paper examines social power in Classic Maya society as represented in the economic and energetic value of architecture at the ancient Maya site of Copan. The unequal distribution of social power often manifests itself in elite communes or surplus labor for civic projects. Elite organization and management of communal labor are viewed here as mechanisms enhancing the social inequality inherent in complex societies. Elite social power will be examined archaeologically in the construction of civic architecture and through different distinctions in the economic and energetic value of architecture between the social groups.

Klasen, Michael A. (Trent) [39] From Icon to Narrative: Continuity and Change in the Contact Period Rock Art of Writing-On-Stone, Southern Alberta Variations in Writing-On-Stone rock art have often been presumed to be a consequence of ethnic displacements during the contact transition, with significant implications for northwest Plains history. However, does not support this hypothesis. Instead, temporal variation in rock art form and content may represent a shift from 'iconic' to 'narrative' representations during the early contact era, reflecting internal cultural changes corresponding to the transformation from hunter to horse-riding-based societies. Moreover, underlying continuities in form and content suggest the long-term role of Writing-On-Stone as the sacred landscape for native groups.

Klutka, Thomas (Roanoke Regional Preservation Office) [14] (see Klein, Michael J.)

Klein, Michael J. (Virginia) and Thomas Klutka (Roanoke Regional Preservation Office) [14] Absolute Seriation, Diagnostic Artifacts, and Feature Chronology: Evaluating Multiple Occupations at the Graham-White Site (44RN21) The Graham-White Site occupies a floodplain of the Roanoke River, in Salem, Virginia. The previous discussion of occupation dates demonstrates the absence of a 17th century occupation, while radiocarbon dates suggest both 15th and 17th century occupations. This research attempts to evaluate the temporal duration and relative intensity of Native American occupation through the analysis of spatial variation in attributes of pottery, pipes, projectile points, shell artifacts, metal artifacts, floral and faunal remains, and pit form.

Klister, Anthony L. (Navajo Nation Archaeology Department) [1] Chacoan Communities in Arizona: A Big Picture From CRM Bites A myriad of CRM projects conducted by the Navajo Nation Archaeology Department and others has led to increasing documentation of a well-established Chacoan 'interaction sphere' in Arizona, consisting of large-scale, two-room-house style great houses, great kivas, communities and roads, focusing on the Puerco River Valley and including on the Kayenta Anasazi region from the south. As yet incompletely understood, these sites make up this system continue to be documented and interpreted with an eye...
Kuehn, Eric E. (Arizona)
[12] Assemblage Diversity and the Use of Space at Tell Al-Raqqā
Excavations at Tell Al-Raqqā, an early urban village site in northeastern Syria, have achieved large areas in excess of 80% for some architectural levels, providing an excellent opportunity for the investigation of a number of problems often hindered by dependence on small, perhaps nonrepresentative samples. Such a small area of research concerns the organization of production and use of space. This paper will present the results of an analysis of assemblage diversity through the application Monte Carlo modeling providing important new insight into these issues.

Kuehn, Eric E., and Louise M. Senior (both, Arizona)
[58] Telling Problems in Interpretation of Ceramic Production: Caveats in Interpretation of Craft Specialization from Northern Mesopotamia
Archaeologists working at Near Eastern tells face a number of problems somewhat unique to their situation. These include spatially restricted, perhaps nonrepresentative samples; a traditional concentration on large, "administrative" areas; and surface artifact assemblages that may not accurately reflect subsurface realities. In this paper we will look at how these and related problems may impact the area of research: the investigation of ceramic production and economic specialization.

Klahs, David (Leech Lake Heritage Sites Program), Rose Klahs (Leech Lake Heritage Sites Program), and Robert Thompson
[45] The Ojega-Geshik Site: Evidence for Early Wild Rice in the Mississippi Headwaters
The Ojega-Geshik site is located in northern Minnesota on the Bowstring River. Surface inspection indicates heavy deposits of Braided and Blackduck ceramics, as well as numerous pit features. Shovel tests and units were excavated to determine site limits and vertical integrity of deposits and pit features. After plotting densities of ceramics, it appeared that the site was occupied differentially during the Middle and Late Prehistoric. This area has been used extensively as a rice site due to the quality and quantity of wild rice. It is possible that these pit features and the differential prehistoric use of the site are related to rice activities.

Klahs, Rose (Leech Lake Heritage Sites Program); [45] (see Klahs, David)

Knotz, Rich (Kodiak Area Native Association)
[109] The Little Ice Age and Late Prehistoric Culture Change on Kodiak Island, Alaska
Recently obtained archaeological data from Kodiak Island, Alaska indicates the houseforms, settlement patterns, and artifacts diagnostic of the Koniag phase came into being shortly after A.D. 1400. It is argued that these changes are linked to the onset of the Little Ice Age, which impacted the Kodiak Archipelago between A.D. 1400 to 1710. These changes were accompanied by greater emphasis on riverine fish resources, and a decline in sea mammal hunting. It is suggested that similar changes in late prehistoric settlement and houseform observed elsewhere in coastal Alaska may also be linked to climatic changes associated with the Little Ice Age.

Knysh, Vernon James (Alabama)
[18] Some Developmental Parallels Between Cahokia and Moundville
The pattern of internal development of the Mississippian center at Cahokia shows interesting similarities to the development of Moundville, even though the two cases are essentially independent and the corresponding events are not synchronous. Both centers emerged as full-blown towns having formal plans. Then, at the height of centralized authority, their residential use was subordinated to public and ceremonial functions. Thereafter each center probably had a residential component limited to the nobility and their retainers. As public architecture reached grandiose dimensions, people moved away. Gradually, central planning broke down, and the architectural emphasis became oriented to specific mounds.

Knudsen, Ruthann (National Park Service); [67] (see Benailie, Larry)

Kuehne, Todd A. (Indiana University of Pennsylvania)
[60] Intraregional Integrity During the Magdalenian of SW France
Intraregional spatial patterning in the SW French Magdalenian is relatively diverse, but shows some clear intraregional similarities, and contrasts with well spatial patterning from Magdalenian sites in other well-defined regions in Europe (the Paris Basin, and SW Germany for example). There is also a substantial amount of evidence supporting the notion of significant regional integrity during the Magdalenian in this area. Artistic styles, raw material distribution, site chronology and chronosatigraphy, and most recently occupational seasonality can all be used to argue that there is substantial within region movement and less extra-regional movement during the Magdalenian.

Kueglir, Margrit; [47] (see Johnson, Ian)

Kohler, Timothy A. (Washington State)
Four different estimates for the total ceramic inventory at a site may be generated by applying these two estimation techniques to these two data sources. The information provided by their comparison is explored in the context of three 12th and 15th century habitation sites on the Pajarito Plateau of north-central New Mexico.

Kolta, Alan (Chicago) and Michael Binford (Harvard)
In this paper, I describe the structure and function of the Lake Titicaca Basin ecosystem of Bolivia as it changed through the past 5,000 years in response to climate and to human activities. Our general hypothesis is that climate variation drives the basin's water balance, and thus lake elevation, at a temporal scale perceived by humans. Local cultures responded to climate and environmental change by creating new resource-extraction technologies and the organizational infrastructure to support these technologies. In at least one case in the history of the Lake Titicaca Basin, abrupt climate change induced radical demographic and social transformations in an indigenous civilization.

Kolb, Charles C. (National Endowment for the Humanities)
[10] "And Then They Fired the Pottery...": Ceramic Ecology and Materials Science in the Evaluation of the Critical Stage of Ceramic Production
Archaeologists often loosely use materials science terminology in considering "firing" as a critical stage in the production of a ceramic vessel since the heating of ceramic materials actually includes baking, "burning," and firing. Distinctions may also be made between frits, oxides, and kilns. Chemical reactions of clay(s), pastes, and liquids are reviewed; and the importance of fuel types, firing temperatures, atmospheres, and heat exposition times are considered. Ceramic colors are related within a context of Ceramic Ecology (Mason 1965, Kolb 1989). Archaeological and ethnographic examples from throughout the world and experimental data are demonstrated to show the kinds of technical and sociocultural information that may result from analyses.

Koonce, Andrea L. and Kent A. Schneider (both, USDA Forest Service)
[132] Human Responses to Fire Behavior: Clues for Interpreting the Past
Fire has been an important and significant factor in human cultural development and change throughout time. We use its evidence to chart the course of prehistoric California landscapes, to date events, to help identify settlement systems from a broad range of botanic and faunal materials preserved by fire activities. Understanding how contemporary indigenous people use and respond to fire can help us interpret fire use in the archaeological record. This paper will illustrate some examples.

Kopystyly, Igor (Pennsylvania); [85] Discussant

Kornbacher, Kimberly D. (Washington)
[112] Axes as Indicators of Agriculture and Interregional Interaction: Evaluating the Empirical Evidence
Axes are among the most ubiquitous artifacts of Ecuador. They have long been regarded as constituting evidence of both agricultural activities and interaction between the Sierra and Amazon. Despite their abundance and the numerous assumptions about their use and movement, the artifacts have occasioned little empirical evaluation. The objective of this research includes evaluating the function and trade of tools termed axes by means of physical analysis. Data gathered during the first phase of work involve a documentation of the range of morphological variation across distinct environments and time periods. The results of macro and SEM analyses of wear patterns and raw materials analysis are also presented. These preliminary data are examined with respect to information gained about function and movement of axes.

[22] (see Willemsen, Kris H.)
Kornfeld, Marcel (Wyoming): [28] (see Larson, Mary Lou)

Kornfeld, Marcel, and George C. Fritton (both, Wyoming)

[105] High Altitude Paleoindian Occupation of the Rocky Mountains

Middle Park is one of the high intermontane basins of the Central Rocky Mountain that has been occupied continually for over 11,000 years. Our studies of the Paleoindian occupations suggest that many of the well-known Plains complexes, as well as some mountain complexes, are present in Middle Park. In this paper, we concentrate on the sites and site collections we have investigated most thoroughly (Folsom, Oshen/Plainview, and Jimmy Allen), but review other sites as well. Analysis of chipped stone and bone yields information on organization of Paleoindian technology and settlement-subistence strategies. In addition, paleoenvironmental studies suggest the nature of Paleoindian landscapes and environments.

Korovakova, Ludmila (Ural State University)

[31] Migrations of the Iron Age in Northern Eurasia

By the middle of the 1st millennium B.C. the iron industry became customary in large areas of Northern Eurasia. This has levelled social development and contributed to chieftain organization, a part of which tended toward the state formation. This process was accompanied by general cultural change, which accompanied the new technology introduction. Eurasian nomadism, having military orientation provided cultural instability not only in the steppe but in the forest zone. By the end of the 1st millennium B.C. Eurasian World has been divided into several parts between most powerful States. Climatic fluctuations disturbed this system and forced tribal communities to change their places. One can distinguish several kinds of migrations within Eurasian space, which finally prepared the Great Migration of Peoples.

Kouchkos, Nicholas (Yale)

[58] Analyzing the Spatial Organization of Pottery Production in Late Prehistoric Khzustain, Iran

Inferring the spatial organization of pottery production from regional distributions of pottery and kiln debris requires parallel analysis of trends in settlement patterns and in modes of pottery production. As groups nucleate and disperse under various political and economic conditions, contexts for exchange among artisans of techniques, innovations, and resources are created or destroyed, and networks for distributing the material products of such interaction are reorganized. Documenting these changing relationships among potters and their products gives key concepts such as specialization and standardization specific and explainable meanings. This approach is demonstrated using evidence from early fourth millennium Khzustain, Iran. [14] (see Shidlovski, Etien)

Kowalski, Jeff (Northern Illinois): [114] (see Walters, Rachel)

Krause, Richard A. (Alabama)

[115] Coffee, Sugar, and Baked Clay: Taino Ceramics from Puerto Rico's Cerrillos River Valley

Ceramics from the sites of La Victoria (PO23) and Plan Bonito (PO27) in Puerto Rico's Cerrillos River Valley will be described. The PO23 sample, an estimated 572 vessels, was drawn from domestic debris and the ruins of a domicile. The PO27 sample, as estimated 1,146 vessels, came from the debris of village life and the debris found amid the ruins of a rectangular ball court. The PO23 ceramics indicate an Ostionen Ostionid occupation early in Rouse's Period III. The Chicán Ostionid potteries from PO27 place it early in Rouse's Period IV.

Kristian-Graham, Cynthia (Atlanta College of Art)

[114] Trade, Tribute, and Art at Chichen Itza

Besides its innovative forms of government and ritual, the success of Chichen Itza was based on a complex economy: even the tombs of tribute and trade are inscribed into the site plan and imagery. This Sacred Cenote, a natural sinkhole and repository for offerings and trade goods, is the axial and ritual focus of the site. Framing the processional path to the cenote is the Temple of the Warriors, which commemorates political membership and tribute. In concert these two points highlight the importance of tribute and trade to the sustained ritual and economic life of Chichen Itza.

Kristiansen, Kristian (University of Goeneberg)

[55] Long-Term, Human Induced Environmental Change in Thy, Denmark

The Thy Archaeological Project was conceived to permit the region's extraordinary protected monuments in environmental and social contexts. Critical to the project is the collaboration with the Danish Geological Survey which documents trends in human induced environmental change. From the Late Neolithic to the Early Bronze Age, these include deforestation and the increase in grazing land and heather. These changes contribute to the substantial alteration of the landscape in the Bronze Age as social structure evolves. This survey work provides an overall context, not only for the monuments, but also for the basic household structure through time.

Krochoch, Ruth (Southern Methodist)

[144] Cross-Correlation of Epigraphic and Archaeological Data at Chichen Itza

This paper demonstrates how themes expressed in the hieroglyphic inscriptions of Chichen Itza (e.g., collective participation in ritual, building dedication, identification of ancestors, and bloodletting) are also expressed in other categories of data, such as iconography, architectural design and function of buildings, artifacts, and settlement patterns. The cross-correlation of data generates discussion about internal political and social organization, local alliances, and the development of Chichen Itza as a unified city.

Kruger, Robert (Pittsburgh)

[82] Technological Study of a Colossal Olmec Head: Rural Olmec Settlement Patterns and Their Implications for Local Economic Organization

A recent survey of an area between the Olmec sites of San Lorenzo and El Manati near the Gulf Coast of Mexico has rediscovered a dispersed pattern of Early Formative housemounds along the levee of an ancient channel of the Coatzacoalcos River. Nearby uplands, in contrast, are almost devoid of occupation during this period. These findings, while supporting arguments for the riverine orientation of Olmec economy in this area, also contradict popular theories concerning the direct monopolization of highly productive levee lands by the elite as a means of social and economic control.

Krupa, Marcie (Chicago)

[50] Local Adaptations to Coastal Ecological Niches During the Magdalenian in Northern Spain

Archaeological deposits from northern Spain demonstrate that the varied ecological niches of the coast were exploited more fully and intensively during the Magdalenian than they ever had been before. During the Magdalenian, inhabitants of cave sites such as El Poyo, Otero and La Isla made full use of a variety of resources available along the coast including molluscs, fish, crustaceans and seaweed. Data from the sites illustrate different systems of marine resource procurement that can be seen as local adaptations to the varied ecological niches of the northern Spanish coast.

Kuczela, Kristin A. (Crow Canyon Archaeological Center): [19] (see Lightfoot, Ricky)

Kulik, Ian (Harvard)

[84] The Emergence of Social Complexity in the Levantine Neolithic: Community Identity, Ritual Practicel, and Village Planning as Seen from Jericho

Recent research on the transition from the Levantine Natufian to the aceramic Neolithic has provided conflicting evidence for increasing social complexity (regional ranking of sites, village planning, and extensive trade networks) with that of continuing "egalitarian" social practices (standardization of the size and shape of dwellings, and common burial practices with no grave goods). This paper presents evidence that these data, such as that from the site of Jericho, reflect the emergence of new and increasingly hierarchical forms of social and ritual organizations that emphasized communal participation in ritual practices and shared access to resources so as to mitigate new stresses associated with agricultural labor needs, population aggregation, and the maintenance of social communities.

Kusack, Jeremy R. (Southern Methodist)

[126] Field Houses and Population Estimation in the U.S. Southwest

The formation of large aggregated communities in the U.S. Southwest is accompanied by the appearance of small, seasonally occupied "field house" sites, constructed by aggregated site occupants. Because of their small size and relationship to the aggregated sites, field houses can be classified as proxies for aggregated site population levels. The use of field houses as a proxy, however, requires that the relationship between field houses and aggregated sites be defined. Archaeological and ethnological data are explored to delineate the role of field houses in aggregated site settlement systems, and their use in estimating region levels of population are evaluated.

Kunkel, Kristine M., and Stephen R. Durand (both, Eastern New Mexico)

[42] Timber Harvesting Using Stone Axes

This research is a result of a tree harvesting experiment in the San Juan Basin, New Mexico. Replicated stone axes were used to harvest trees similar to those used in the construction of Chacoan
Great Houses, Cutting, limb trimming, debarking, and end finishing of the trees was timed. The results include a refined estimate of person hours needed for timber procurement, an increased understanding of prehistoric stone implement use and its durability, and an improved understanding of the prehistory within Chaco Canyon.

Kurtz, Michael L. (Bureau of Land Management) and Maureen L. King (Washington)

Paleoindian Origins: New Data and New Questions from Arctic Alaska

During the middle decades of this century, researchers began questioning why evidence of the Paleoindian tradition remained elusive in Beringia, where the ancestors of these ancient New World peoples presumably originated. At the University of Alaska, archaeologists have been working to fill this gap in our understanding of Paleoindian tradition in eastern Beringia. However, this tradition has also been found in western Beringia, but it is mathematical. In the construction of the activities providing the first hints of a Paleoindian presence in Alaska, have occurred on a similar scale in Siberia providing no clues, suggesting the Paleoindian tradition may be strictly a New World phenomenon possibly stemming from non-Beringian antecedents.

Kurjack, Edward B. (Western Illinois) and Ruben Maldonado C. (INAH-Centro Regional de Yucatan)

[130] Dzibichaltun Revisited

Excavation and survey at Dzibichaltun during the 1930s and early 1960s led to interpretations that different variation in time and space. In the construction of the activities providing the first hints of a Paleoindian presence in Alaska, have occurred on a similar scale in Siberia, providing no clues, suggesting the Paleoindian tradition may be strictly a New World phenomenon possibly stemming from non-Beringian antecedents.

Kuzmin, Yaroslav V. (Pacific Institute of Geography)

[116] Paleoindian Subsistence: A View From Siberia

This paper presents a suite of paleoecological, geographical, and paleoenvironmental data from late Paleoindian archaeological sites in Siberia. These data are used to interpret subsistence changes during the Pleistocene. Given that Paleoindian progenitors are characterized in the Paleoindian record of Siberia, this information is crucial to our understanding of Paleoindian subsistence strategies.

Kuznar, Lawrence A., and Robert Jeske (both, Indiana-Purdue at Fort Wayne)

[153] The "Roll" of Dogs in Archaeological Site Formation Processes: It's the Pit!

A recent feature in archaeological sites of the American Midwest is the "amorphous" pit. Often symmetrical, shallow and diffuse, these features frequently contain little material culture that differentiates them from surrounding midden. Ethnoarchaeological study of dog digging behavior suggests that canine disturbance may be a significant factor in site formation and the formation of amorphous pits. Dogs dig under a variety of conditions, some of which are expected in hunter-gatherer or horticultural habitation sites. Excavation of recent dog holes and dog "wallow" reveals marked similarities between the canine disturbances and certain features reported in the ethnographic literature.

Kvannum, Kenneth L. (Boston)

[156] The Large-Scale Structure of Chipping Debris Scatters: Linking GIS Visualization with Field and Experimental Archaeology, Computer Simulation, and Mathematical Modeling

In large-scale mappings of extended chipping debris sites, GIS visualization and spatial statistics suggest sorting of the debris by size and type in scatter after scatter. Experimental archaeology confirms these observations. These results, together with computer simulations used to replicate these patterns, are promising methods for understanding the evolution of lithic assemblages.

La Motta, Vincent L. (Arizona): [85] (see Walker, William H.)

La Porta, Philip C. (Hunting)

[57] The Spatial Distribution of Prehistoric Lithic Resources: Geological Models and the Elucidation of a Prehistoric Mining District

Predicative models which target potential prehistoric lithic resources, based on extensive geological mapping, have been constructed for diverse geological terrains in the Appalachians. A continuous suite of lithic resources appears to occur along the entire trend of the Appalachians. Recently discovered quarries suggest a sophisticated mining technology was shared throughout the region. A data base, constructed from the physical and chemical properties of the cherts, will serve to aid future provenance studies.

Ladejogeh, Thege (University of Auckland), Richard P. Jennings (University of Auckland), and Michael W. Graves (Hawaii)

[69] The Agricultural Intensification of Kola: A GIS-Based Analysis of a Leeward Hawaiian Field System

The introduction of forward Hawaiian chieftaincies intensified the dryland agricultural field systems in their territories to establish a material basis for political hegemony. The spatial distribution of the Kola system is defined by aerial photogrammetry. A GIS analysis of a digital elevation model, provides a means of converting field to hill model distribution, clearly delimits the environment of the agricultural field system. The intensification of the system is modeled by the automated identification of discontinuities in the alignment of rock walls. The analysis suggests that differential intensification took place in diverse social and environmental contexts.

Lanata, José Luis, and Norma Ratto (both, University of Buenos Aires)

[22] Tool-Kit and Sea Lions: A Case Study from Tierra del Fuego

In this paper we discuss the relation between human population and sea lions in eastern Tierra del Fuego. A specialized tool-kit is traditionally assumed to be the most appropriate for hunting this prey. By applying a Darwinian perspective in the analysis of the weapons' raw material and the hunters' ethology, we demonstrate this assumption is not necessarily true. We conclude that the hunter-gatherers had not developed a specific tool-kit based on the sea lions' predictability, b) raw material quality and c) the utilization of multiple strategies in hunting this prey.

Landon, David B. (Michigan Tech) and Michel Toplyn (Harvard)

[68] Uses of Morphometric Data for Studying Domestic Animal Populations

This paper reviews the uses of metric data from bones, with a particular emphasis on the applications to the study of domestic animals. Metric data have been used to look at animal husbandry practices, breed variation, sexual dimorphism, environmental change, and the process of domestication. Data from specific case studies is used to show the applicability of metric data to interpreting other issues, including adaptive response and provisioning systems.

Langgjik, Odin M. and Arthur Aufderheide (both, Minnesota-Duluth)

[49] The Role of Cultural and Genetic Determinants in the Production Contrast in Dental Pathology Patterns in Pre-Cultural and Post-Cultural Northern Chile Coastal Populations

Demographic differences were found in degenerative and infectious dental complications of preceramic and post-Ceramic populations occupying the northern Chile coast between 700 B.C. and A.D. 1000. Several distinct cultural and genetic determinants are proposed as etiological agents.

Larick, Roy: [57] Discussant

Larimer, Grayson (Minnesota-Duluth): [51] (see Peters, Gordon R.)

LaRonde, Signa (Bureau of Reclamation)

[19] Anasazi Axes and Mads as Cleavers and Clubs

Prehistorians are considering the grim prospect that the Anasazi engaged in cannibalism, warfare, violent crime, wife beating, and executions. The skeletal evidence for these actions often suggests the weighting of heavy, blunt objects to cause bone fractures and breakage. Large hafted tools like axes and mads, which are common in Anasazi assemblages, are obvious candidates for weapons used to cause such damage. This paper reviews southwestern ethnographic and archaeological evidence for the employment of large hafted tools as instruments of death, dismemberment, and destruction.

Larson, Daniel (California State) and Hector Neff (Research Reactor-Missouri)

[22] The Evolution of Exchange

Movement of materials through space is abundantly and easily documented in the archaeological record. The very ubiquity of this phenomenon implies that it arises through some selection-driven evolutionary process rather than by chance. In this paper, we focus on exchange among sedimentary groups. We argue that environmental variation favors exchange in some areas. On one hand, geographic variation in an environment characterized by relatively stable variation favors specialized exchange systems independent of local specialization. This model leads to prediction about contrasts in ceramic exchange patterns between
the Southwest U.S., where year-to-year variation in moisture availability is high, and Mesopotamia, where moisture availability tends to be more predictable.

Larson, Lynn L. (Larson Anthropological/Archaeological Services)

The West Point site complex, Seattle, Washington subsistence data set shows dramatic changes in species selection between 4200 and 2700 B.C. across fish, shellfish, mammal, and plant taxa. This study suggests that changes in the diet of shellfish are linked to development of assemblages. Feurte and marine shellfish data suggest subsistence changes are linked to development of fishing techniques for storage. Shellfish processing continues as an important fish and shellfish processing technology for storage. Shellfish processing continues as an important method for subsistence in the region.

Larson, Mary Lou (Wyoming): [39] (see Francis, Julie)

Larson, Mary Lou and Marcel Kornfeld (both, Wyoming)


Chippewa Stone Nodules: Theory, Method, and Several Northwest Plains Examples. We present a number of examples of Chippewa Stone Nodules ranging in age from present case studies using Northwest Plains chipped stone assemblages. No. 100 to 1000 years old. Comparisons between different assemblages are used to address implications for forager technology.

Larsson, Lars (University of Lund)

[16] Settlement and Environmental Changes in Southern Sweden During the Late Glacial and Early Holocene.

Our knowledge of Late Paleolithic settlements in Southern Sweden has been increased significantly by the excavations at Altorf. New locations have been investigated, and finds recovered indicate that humans were attracted by the availability of resources during the Ice Age. The Neolithic period is marked by the appearance of settlements, including the famous 'Altorf' site. These settlements were occupied by farmers who cultivated cereals and domesticated animals. The transition from the Late Glacial to the Early Holocene is marked by a decrease in the number of hunter-gatherer sites and an increase in the number of agricultural settlements. This transition is also marked by a change in the landscape, with the development of agricultural landscapes and the expansion of forested areas.

Lamb, Richard S. (Buffalo Museum of Science)

[67] The Pleistocene Archaeological Record of the Horseshoe Site (Western New York State) and Its Geological Context.

During the late Pleistocene, lakes and their wetlands formed a 900-mile-wide zone of lake water. Western New York and southern Ontario were covered by a thick layer of ice, which was surrounded by a zone of lake water. The Pleistocene archaeological record of the Horseshoe Site is characterized by a series of cultural layers, each representing a different stage in the development of human settlement in the region. These cultural layers are separated by erosional surfaces, and each layer contains artifacts that provide insights into the behavior of the people who lived in the area at that time. The geological context of the archaeological record is important in understanding the development of human culture in the region.

Lawlor, Elizabeth J. (California-Riverside)

[131] Distinctive Phytoliths from Mojave Desert Diets.

Phytoliths are small, glassy, silica-rich structures that are produced by plants. They are found in a variety of environmental settings, including sediments, soils, and archaeological sites. Phytoliths can provide valuable information about the diet of ancient peoples, as they can be used to identify the types of plants that were consumed. This study examines the phytoliths found in the Mojave Desert, and identifies a number of distinctive phytoliths that can be used to identify specific plant species. These phytoliths are found in a variety of environments, including desert grasslands, shrublands, and washes.

Lazarus, Paula Kay (New School for Social Research)

[76] Sardinia and Contemporary Italy During the Neolithic-Bronze Age Transition.

Sardinia is an island in the Mediterranean Sea, with a long history of human occupation. During the Neolithic-Bronze Age transition, Sardinia was part of a larger cultural region that included the Iberian Peninsula and the Aegean Sea. This study examines the cultural and economic changes that occurred during this period, and how they were influenced by the regional and local contexts. The study focuses on the transition from Neolithic to Bronze Age, and how this transition was influenced by the regional and local contexts.

Leach, Elizabeth (Metropolitan State)


Ecological studies of the 19th-century Dakota culture reveal the geologic world as a manifestation of four principle spiritual essences—Man, Animal, Sky/Movement, Sun. Dakota ecology consists of the matrix of relationships among these four and the actions they are owed.

Leach, Foss (Museum of New Zealand)

[58] Some Implications of High Protein Marine Diets in Prehistoric South Pacific Economies.

Marine diets in the Pacific region were important in prehistoric times, as they provided a significant source of protein. The study suggests that high protein marine diets played a significant role in prehistoric South Pacific economies, and that this role may have been influenced by the availability of other food resources, such as plants and terrestrial animals.

Leach, Jeff D. (Centro de Investigaciones, El Paso), Raymond P. Meadlin (New Mexico) and H. Curtis Monger (New Mexico State)


The study of eolian geomorphology and archaeological patterning in the Desert Southwest provides valuable insights into the interaction between human activity and the natural environment. The study suggests that eolian processes can have a significant impact on the distribution and preservation of archaeological sites, and that these processes can be used to identify areas of human activity.

Lechuk, Melinda (North Dakota)

[133] Tracking the Ancients: Obsidian Sourcing as a Cue to Prehistoric Mobility.

Mobility continues to be a critically important, and poorly modelled, dimension of prehistoric lifeways. Understanding prehistoric mobility patterns is critical to identifying the mobility patterns of the groups that lived in the region. This study examines the mobility patterns of the groups that lived in the region, and how this mobility was influenced by the available resources and the landscape.

Leader, Jonathan M. (South Carolina Institute of Archaeology and Anthropology)


This study examines the form and context of Native American copper artifacts, and provides an overview of the different forms and contexts in which copper artifacts were used. The study focuses on the different forms and contexts in which copper artifacts were used, and how these forms and contexts were influenced by the regional and local contexts.

Lebo, Cathy J. (Southwestern State)


This study examines the relationship between agriculture and climate in the American Southwest, and how this relationship was influenced by the local contexts. The study focuses on the different forms and contexts in which agricultural practices were used, and how these forms and contexts were influenced by the regional and local contexts.

Lebo, Susan A. (Bishop Museum)

[22] Post-Contact Ceramic Change in Honolulu, Hawaii.

The study of ceramic change in Honolulu, Hawaii provides valuable insights into the cultural and economic changes that occurred in the region. The study examines the different forms and contexts in which ceramic change occurred, and how these forms and contexts were influenced by the regional and local contexts.

Lehman, J. (University of Hawaii)

[22] Ceramic Change in Honolulu, Hawaii.

The study of ceramic change in Honolulu, Hawaii provides valuable insights into the cultural and economic changes that occurred in the region. The study examines the different forms and contexts in which ceramic change occurred, and how these forms and contexts were influenced by the regional and local contexts.

Leitner, M. (University of Hawaii)

[22] Ceramic Change in Honolulu, Hawaii.

The study of ceramic change in Honolulu, Hawaii provides valuable insights into the cultural and economic changes that occurred in the region. The study examines the different forms and contexts in which ceramic change occurred, and how these forms and contexts were influenced by the regional and local contexts.

Leitner, M. (University of Hawaii)

[22] Ceramic Change in Honolulu, Hawaii.

The study of ceramic change in Honolulu, Hawaii provides valuable insights into the cultural and economic changes that occurred in the region. The study examines the different forms and contexts in which ceramic change occurred, and how these forms and contexts were influenced by the regional and local contexts.
of post-contact ceramic assemblages is limited to adhoc applications of inferred chronologies based on archaeological assemblages on the U.S. mainland. Ceramics were imported to Hawaii during the post-contact period from Europe, Asia, and the Americas. Frequency variations are maintained to develop a locally inferred chronology which is then used to examine changes in ceramic selection at four pre-1900 sites in Honolulu.

LeCount, Lisa (California-Los Angeles): [64] (see Taeger, Jaton)

Lee, Yuan-Kuen (Wayne State) and Giao Gao

[77] Kinship Reconstruction in Chinese Prehistory

Kinship is one of the most important adaptive features of human groups. Nevertheless, its archaeological reconstruction is often difficult or illusory. Based on the assumption that kinship system has been regulated by a biological network, past kinship can be illuminated by the systematic study of human osteological remains. This paper reports on the reconstruction of the systematic study of human osteological remains. The results of this approach to the migration of a fifth millennium B.P. multiple secondary burial site in the biological relationship among the individuals of the site demonstrates that biological methods are revealing for kinship study in northwestern China and demonstrates that biological methods are revealing for kinship study in northwestern China.

Leer, William B. (Okahama Historical Society): [74] Participant

Leigh, William L.

[29] Garbage, Guts, and Greed: The Trafficking of Civil War Collectibles

Trading in Civil War collectibles is brisk and robust. Fortunately, the combination of four market factors is focusing interest on nonexcavated items: (1) things which have never been buried are inherently in better shape; (2) the collecting market has thin layers, that is, in recent years, attrition has been greater than numbers of collectors who are entering the market; (3) buried artifacts are increasingly harder to find; and (4) nonexcavated items are widely considered to be better and safer buys. Condition, demand, availability, and value are shifting the focus of Civil War collecting toward unexcavated and nonexcavated items. Consequently, commercial threats to Civil War sites may soon be a thing of the past.

Lekson, Stephen H. (Crow Canyon Archaeological Center)

[38] The Logic of Regional Synthesis

Because of the remarkable viability of its sites, the Southwest has a long history of innovation and because of the remarkable strength of its regional identity. George Manum has been associated with the many of the most influential recent programs: SAGA, Anasazi in a Changing Environment, Dynamics of Southwestern Prehistory, and most recently, SPP and SPP-2. The development of logic for regional synthesis in the Southwest reflects a larger philosophical debate; because of the unusual nature of the record, that southwesterners reflect on longer-term philosophical issues. This paper examines the development of regional synthesis logic can, perhaps, inform those debates. This paper examines the development of regional synthesis in the Southwest, and suggests and demonstrates new epistemological approaches and logics.

Lenihan, Daniel J. (National Park Service): [29] (see Murphy, Larry E.)

Leonard, Heidi A. (Bishop Museum)

[69] Patterns in Paleobotany: An Archaeobotanical Transect on Oahu, Hawaiian Islands

Small-scale investigations in Hawaiian paleobotany have demonstrated the potential of archaeological materials as a source of information on Hawaiian prehistory. However, to gain a more complete understanding of the interaction between pre-Contact Hawaiians and their environment, it is necessary to study larger archaeological assemblages to gain insights into the diversity and patterns of past human activities. This study examines the distribution of plant remains in archaeological sites on Oahu, Hawaii. The transect consists of 30 different archaeological sites which are selected to represent a range of environmental conditions. Patterns of differential plant use are documented and linked to varying ecocultural zones, cultural preferences, activities, and occupation periods.

Lenink, Stephen C., Fred A. Finney, and Richard L. Fisher (all Iowa)

[45] Rethinking Mill Creek Settlement and Agriculture Systems: New Data from the Phillips, Double Ditch, and Lhita Sites

Excavations were conducted during the summer of 1994 at three sites of the Eastern Iowa transect of the Middle Missouri tradition in Iowa: Phillips, Double Ditch, and Lhita. Preliminary results indicate that past identified Mill Creek settlement patterns and agriculture need to be reworked and expanded. New data point to a diversity of agricultural field techniques utilizing both ridges and hills. The Lhita site is the only location that provides data on the cultivation of maize. The preliminary results indicate that past identified Mill Creek settlement patterns and agriculture need to be reworked and expanded. New data point to a diversity of agricultural field techniques utilizing both ridges and hills.

LeTourneau, Philippe D. (New Mexico)

[123] The Folsom Problem

The discovery of fluted points embedded in the rib cage of an extinct bison near Folsom, N.M., involved the controversy over North American human antiquity and provided researchers with an early example of a prehistoric site type, the Folsom point. The association of Folsom sites with temporal marks has implications for unit reliability and validity. Of the hundreds of Folsom point sites, fewer than 15 are dated. Small sample size and a 700-year-time range limit the Folsom point's reliability as a temporal type. Problems of variability arise when the Folsom point is used to directly research into "Folsom" settlement, subsistence, and technology.

Levine, Mary Ann (Massachusetts-Amherst)

[198] Tracing the Exchange of Native Copper among Hunter-Gatherers in Northeastern Prehistory

Native copper artifacts have been unearthed from a variety of Late Arcadian and Early Woodland sites in the Northeast. Although most scholars have assumed that native copper was procured exclusively from Lake Superior deposits, this assumption has not been tested. This paper questions the dominant model of native copper procurement in Northeastern prehistory and reports on results from a period of research into the location of the source of copper from numerous archaeological sites and geological deposits. This research investigates whether Late Arcadian and Early Woodland hunter-gatherers utilized one dominant source of copper or procured copper from several deposits.
Levy, Janel E. (North Carolina-Charlotte) [22] Gender, Power, and Heterarchy in Middle-Level Societies

The concept of heterarchy provides a useful perspective on the interrelationships of gender and power. Heterarchy emphasizes multiple sources of influence and power within and between communities, while also taking into account flexibility and fluctuation in relationships of influence, power, and prestige. Examples are drawn from Bronze Age Europe and late prehistoric southeastern United States.

Levy, Thomas E. (California-San Diego) [95] The Later Neolithic-Proto-Chalcolithic Transition - New Views from the Northern Negev

The 1990-1992 excavations at Gilat, a Chalcolithic (c. 4500-3500 B.C.) site in Israel's northern Negev desert, provide new data concerning the Later Neolithic-Proto-Chalcolithic transition in the southern Levant. The Gilat stratigraphic sequence, new radiocarbon dates from the site, and statistical analyses of several Negev Chalcolithic ceramic assemblages contribute to a new information concerning the processes of settlement change at the end of the Neolithic period. The new data indicate more cultural continuity between these two periods than is generally assumed.

Lewarch, Dennis E. (Larson Anthropological/Archaeological Services) [43] Development of Local Styles and Adaptations in Puget Sound and the Gulf of Georgia

Regional and multidimensional scaling techniques are used to compare recently analyzed Chumash material with Puget Sound and Gulf of Georgia ceramic assemblages. The results indicate broad cultural complexes and regional style and settlement function similarities in the Puget Sound-Gulf of Georgia area and southern British Columbia.

Lewanetz, Suzanne (Universidad de las Américas-Puebla) [78] The Abandoned Ramarruri Residence: An Archeological Perspective

A 1994 study of five abandoned houses in the Sierra Tarahumara of southwestern Chihuahua, Mexico centered around the mapping of stone structures and cavities, the traditional summer and winter homes of the seminomadic Ramarruri. The study included interviews and associated structures, as well as the spatial distribution of food remains and artifacts. In order to understand the use of space and the processes of site abandonment, and to contribute to the growing body of archeological social theory on households in general, former residents and neighbors were interviewed and a study was carried out of a currently occupied household and its numerous activities.

Lewis, Brandon S. (California-Los Angeles) [13] Late Classic Maya Economic Integration: Perspectives from the Lithic Production Systems of Northwestern Peten

The present paper proposes that the lithic production and specialization systems of the northeastern Peten will be examined so as to provide insight into the nature of Late Classic Maya economic and political integration. This paper examines Maya societal integration from the perspective of both independent and attached forms of specialization. The paper examines the relationship between production and consumption, and the relationships between the two groups.

Li, Guo (Harvard) [77] Neolithic Sand Bar Sites Around the Pearl River Estuary Area: A Recent Perspective

The Neolithic sand bar sites around the Pearl River Estuary area may be divided into two periods, and the first one includes two phases. While the two periods have been dated from about 6000-3500 B.P., there appears to be a missing link of some 500 years between the two, perhaps for the reason of transgression. There seems undoubtedly an existence of nonmarine coastal and relatively mobile fishing and gathering subsistence in the earlier period. Furthermore, there should have been functional differences between the primary and the secondary sand bar sites in the area.

Lightfoot, Ricky R. (Crow Canyon Archaeological Center) and Kristin A. Kuckelman (Crow Canyon) [19] Ancestral Pueblo Violence in the Northern Southwest

Evidence of violence is abundant from the prehistoric American Southwest. The authors review recent research on violence and evaluate the hypothesis that violence and a concern for defense increased around A.D. 1250. Data from the Mesa Verde region lead to the conclusion that violence and a concern for defense did increase at that time, as evidenced by changes in settlement patterns, architecture, and mortuary contexts. Increased violence is likely to have been among the conditions that contributed to the ancestral Pueblo migration from the region in the A.D. 1280s.

Limp, W. Frederick (Arkansas) [1] Instructor

Lind, Michael [66] The Obverse of the Codex of Cholutla: Defining the Settlement System in the Kingdom of Cholutla

An analysis and interpretation of the Codex of Cholutla provides information on the settlement system of the Kingdom of Cholutla around the time of the Spanish conquest. The implications for archaeological research are examined.


North American platform mounds can be viewed as sacred places, made so by their economic, religious, and political functions. They are found in both the American Southeast and Southwest, and despite differences in the ages, frequency, and morphology, platform mounds in these instances served as integrative facilities for societies that can be described as complex. This paper reviews evidence for large-scale food storage, group feasting, ritual activity, and social differentiation associated with earthworks, and also suggests that earthworks may indicate similar paths in the development of complexity irrespective of different local sequences.

Lindor, Chris (Bard) [54] U.C. Dig: An Educational Video on Basic Excavation Techniques

A field school at a Late Archaic base camp in the Ohio Valley provides the setting. The first part of the video illustrates the use of transit, alidade, trowel, and screen, as taught by Kent Vickeroy of the University of Delaware. The second part comprises a narrative of pit feature and human burial excavations. Short titles emphasize visual perception of the dig's activity and evidence. A haunting flute soundtrack reinforces concentration on detail. The learning experience comes through clearly, at times humorously, and with a preservation ethic message.


Lipp, Carl (Washington); [10] (see Madsen, Mark); [72] (see Hunt, Tim)

Lipp, Carl, Mark Madsen, and Tim Hunt (all, Washington) [12] Artifact Style Dynamics II: Deriving Networks from a Network Model of Transmission

A major task facing efforts to extend evolutionary theory to explanation of cultural phenomena is the replacement of genetic models with a theory of cultural transmission. Recent efforts have yielded models that are based upon untestable assumptions. We describe a formal model of transmission based upon simple, empirically sound assumptions about cultural transmission. In a spatially structured population, the model generates "linguage" behavior similar to that observed empirically. Our network model, when compared to previous models in a simulation environment, generates realistic transmission behavior through space, over time, and from the point of view of individual transmitting agents.

Lippert, Dorothy T. (Texas-Austin) [54] Wheels Within Wheels: The Many and Changing Roles of Native Americans in Archaeology

With the passage of NAGPRA, archaeology has been forced to work more closely with Native American groups. The presence of Native American archaeologists has been seen as an advantage. Archaeology must be careful, however, that myths and incorrect assumptions about Native American attitudes toward the discipline do not constrain or curtail closer working relationships. This paper will consider some of the myths surrounding Native American perspectives on archaeology and will also discuss problems Native Americans face within the discipline.

Liss, Ken (Minnesota) and Kathryn Reese-Taylor (Texas-Austin) [64] The 1993-1994 Sacred Landscape Revealed

During the 1993-1994 seasons, the clearing of the main civic center at the site of Cerro revealed
many heretofore unknown structures and allowed for more accurate measurements of structures previously mapped. A new plan of the civic center has been compiled which gives additional information for the interpretation of the sacred landscape during the Late Preclassic period. The information on the layout of the Preclassic and Early Classic components for this area. An overview of the site and its environmental setting, work performed, and the goals of future research will be presented in this paper.

López, Hector Salgado (INICUA, Colombia): [127] (see Stemmer, David M.)

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Lopez-Caball, John (Sonoma State)

[47] Material-Referent Adaptation: An Experimental Approach Using Genetic Algorithms in Genetic Algorithm (G-A) based simulations, an entity's genome provides the numerical values and limits within which movement, life-cycle processes, etc., are compared to those of its competitors. Recent efforts to provide these entities with the attributes and behaviors necessary to simulate archaeological phenomena has, so far, depended upon a number of as yet untapped assumptions regarding human behavior, particularly those concerning the human use and interaction with the material environment. Introducing this capability into G-A based simulations is difficult since materials must retain certain physical and behavioral characteristics throughout phases of procurement, modification, use, and discard. This paper explores a possible solution to this problem.

Lohrop, Jonathan C. (GAI Consultants)

[56]Paleoindian Adaptations in New York, Pennsylvania, and Ohio Recent research on northeastern Paleoindian lifeways has highlighted differences in adaptations with contemporaneous groups elsewhere in North America. Data from these studies have prompted several scholars to suggest that there were also adaptive differences between fluted point groups within the same cultural region. This paper focuses on Paleoindian lifeways in New York, Pennsylvania, and Ohio. A review of Paleoindian systematics in these states is presented. This is followed by a consideration of the evidence for adaptive variation both within these three states and versus other parts of the Northeast.

Lorentzen, Leon (Arizona): [85] (see Nieves Zedório, M.)

Loubser, Janie (New South Associates)

[39] Rock Paintings, Hierarchy, and Change in Hunter-Gatherer Communities of the Caledon River Valley, South Africa San hunter-gatherer communities occupied the Caledon River valley of southern Africa since the late Pleistocene. Their use of sophisticated agricultural tools was among the first to be recorded in the area some 300 years ago, not entering the hunter-gatherers' subsistence traditions until the late Pleistocene. When the frontier of agricultural expansion reached the southern limit about 300 years ago, relations between agriculturalists and hunter-gatherers across this frontier created opportunities for shamans/painters to enhance their status. This change in status is reflected in the rock paintings of the southern Caledon River Valley. Used in conjunction, the rock art, and ethnography show how ritual help create hierarchies in so-called "egalitarian" societies.

Louvitz, Ladimir R. (CUNY Graduate School)

[63] Where Do We Search for Paradigms, Theoretical Concepts in Polish Archaeology During the Last Fifty Years Can 50 years of political and economic isolation influence a scientific paradigm? Many would say: yes! But to what extent? What manner? Does political anthems force scholars to avoid themselves and their ideas? In my paper, I will focus on an often quoted by East European archaeologists illustrative concept of a "political isolationism" as a major force that hampers a flow of information and effectively slows down or obstructs theoretical influence in the field of archaeology. The example comes from Poland. In contrary, a set of data will be presented to argue that the so-called "clan" school of Polish theoretical archaeology inherited, first of all, the richness of local intellectual tradition.

Lubinski, Patrick M.

[43] Pronghorn Intensification in the Wyoming Basin? Previous research at the Great Plains-Great Basin margin in the Wyoming Basin has implied a significant increase in population and mass procurement of pronghorn in the Late Pleistocene. This poster will present results of ongoing dissertation research designed to test the validity of these interpretations and evaluate several alternative hypotheses for the observed pattern. The study reevaluates evidence for communal hunting in part through an actuarial study of a modern catastrophic death assemblage (150 pronghorns) and evidence for pronghorn specialization through a comprehensive review of prey selection patterns in the Wyoming Basin.

Lucas, Jason (Texas)

[42] The Late Pithouse Period at Old Town Since 1989 investigations at the Mimbres site of Old Town have revealed an area of primarily Late Pithouse period occupation. During the apparently brief occupation of this portion of the site, several pithouses were constructed, the largest of which was semi-subterranean, most of them masonry, but two of podzol-adobe construction. Superposition, evidence of remodeling, and stratigraphic dating indicate changes in the architectural configuration of these structures. The earlier two or three structures probably date to late A.D. 900s and are the least well known. The later five structures date to the first half of the A.D. 900s and appear oriented around a common courtyard.
Lucero, Lisa J. (California-Los Angeles): [15] (see Olson, Kirsten A.)

Lundal, Jennifer (California-Los Angeles): [13] (see Hughbanks, Paul J.)

Ludberg, Emily R. and Linda Sieker Robinson: [115] Settlement Investigations at El Bronce, a Precolumbian Village in the Cerillos Drainage, Puerto Rico

The southern Puerto Rico site of El Bronce represented a village with successive precolumbian occupations. Research carried out in connection with the Cerillos-Buceo flood control project, sought to investigate community functioning as revealed by the layout of postmolds, plaza stones, and other features. It also addressed the site's role within the larger context of resource areas, and cultural exchange. This paper evaluates the Bronce evidence in the light of subsequent findings from other research in the region, which confirms some of the Bronce results while leaving other questions unresolved.

Lütting, Jens (Universität Frankfurt/M)

[81] Economic and Social Structure of the Bandkeramic Culture in the Lower Rhine/Central Germany

During the 1970s, in the Merzbruch Valley (Aldenhoven Plateau, Rhinehald, Germany) large-scale surveys and excavations of a neolithic landscape were carried out. Particularly for the Early Neolithic Bandkeramic culture, the analysis of several fully documented settlement plans is presented. The results show that these settlements were characterized by a high degree of spatial organization and social complexity. Different distribution patterns of stones, pottery and botanic macrofossils at house and village level give important insights into the structure of households, families and kinship, as well as the degree of interdependence through procurement of lithic raw materials and craft specialization.

Lysett, Mark T. (New Mexico)

[30] Spatial Variation in Agricultural Landscapes: The Structure of Clusters in the Galisteo Basin, New Mexico

Periodic, and spatially patterned areas around sedentary settlements result from multiple overlapping patterns of domestication, with fresh and saltwater wetlands serving as sources of aquatic plant life. Under such conditions, small agricultural communities were sustained by fishing and hunting, and quantities of land was limited.

Lyle, Robin P. (Texas A & M)

[92] Functional Analysis of Mimbres Ceramics from the NAN Run, Grant County, New Mexico

The most common Mimbres vessel form, hemispherical bowls, are the most often recovered from burial contexts, leading many early researchers to propose a ceremonial function. This paper questions this view by examining with a functional perspective the use of these vessels and its implications for Mimbres history. Mimbres ceramic assemblages are characterized by a high degree of variability in form and decoration, with most vessels being decorated with geometric or naturalistic motifs. The analysis of these patterns allows for a better understanding of the social and cultural context in which these ceramic forms were produced.

Lyman, R. Lee (Missouri-Columbia): [38] (see Butler, Virginia L.)

Lynch, Thomas F. (Cornell)

[89] Changing Adaptations to the Gran Despoblado of Northern Chile

Postglacial environmental changes had marked effects in the internal drainage system of the Puna. The development of large lakes and lagoons in the area was characterized by changes in temperature, precipitation, and vegetation, which led to the development of new habitats for various species.

Lynch, Thomas F. (Cornell)

[49] Inka Roads in the Atacama: Effects of Later Use by Mounted Travellers

In summary, the Inka roads of northern Chile were modified and reused to meet the needs of later groups. These modifications included the addition of stone terraces and the construction of new structures along the roads. These changes had a significant impact on the local environment and the societies that used the roads.

Lynn, Patrick D. (Arizona State Museum): [85] (see Bubenyre, Tizzi D.)

Mabry, Jonathan (Center for Desert Archaeology)

[107] New Light on Early Southwestern Villages

Recent excavations in Tucumcari, New Mexico, have provided new insights into the settlement patterns and social organization of early Southwestern villages. This paper presents the results of these excavations and discusses their implications for our understanding of early Southwestern prehistory.

MacDonald, Doug (Washington State)

[133] Mobility and Material Use at the Hunting Camp Spring Site, Blue Mountains, Oregon

This paper examines mobility and lithic technological organization of the inhabitants of the Hunting Camp Spring site in the Blue Mountains, northeastern Oregon, during the late 1000 years. Evidence suggests that mobility patterns were influenced by resource availability and the need to maintain social and political connections with neighboring groups. These patterns were further modified by the presence of large game species, which were hunted by different groups.

MacEachern, Scott (Calgary)

[103] Functional and Stylistic Variability: The Case of the Northern Mandara Mountains

A fundamental problem in archaeological research involves establishing a relationship between artifact patterning and present human societies. The spatial and temporal variability of the archaeological "cultures"—defined through stylistic analyses—are often larger than those of present-day ethnographic groups, which are limited by the limitations of fieldwork. This paper examines the cultural variability associated with these groups and how these patterns were used differently based upon proximity to the source.

Mack, Joseph M. (Pomona)

[13] The Significance of Multiple-Floored Households in Upper Klamath River Canyons

Within a mile of the Klamath River in southern Oregon and northern California, eighteen households have been identified. Limited excavation indicates that all were from the late Holocene period. Six of these had more than one floor, and are modern in date. This paper discusses the possible significance of these multiple-floored households and their implications for the local and regional context.

Mack, Robert and David R. Yeiser (Both, Alaska-Anchoroge)

[100] The Aleutian "Transition Culture" and Aleut/Pacific Eskimo Origins: Evidence from Margaret Bay

The "Transition Culture" in the eastern Aleutian Islands, dating from ca. 7000 to 4000 B.P., is characterized by the presence of various small shellfish species, including mussels and clams, as well as the presence of marine mammals such as seals and whales. This culture was followed by the Aleutian Culture, which lasted from 3000 B.P. to the present day.
Mackey, Larry (U. S. Attorney's Office)

[29] The Art Gerber Prosecutions: A Case Study on Interstate Trafficking of Stolen Artifacts

This paper will review the results of a federal criminal investigation into the looting of one of North America's largest Hopewell prehistoric mounds. The prosecutions marked the first time that a federal appeals provision of the Archaeological Resource Protection Act had been approved by the federal appeals court. ARPA's protection against looting was transported with the required artifacts to another state for trial.

MacNeil, Richard S. (Andover Foundation for Archaeological Research): [77] (see Gunnar, Geoffrey; [131] see Zhao, Zhijun)

Maddigal, T. Cregg (Rutgers)

[46] A Thematic Perspective on the Interpretation of Mortality Profiles in Zoosexography

This paper argues that there is a lack of demographic and environmental information in the portrayal of human and mammalian populations in historical and archaeological records. This absence is due to a lack of data and a lack of understanding of the human and mammalian populations that were present in the past.

Madzen, Mark (Washington): [72] (see Hunt, Tim; [22] see Lipo, Carl)

Madzen, Mark, Carl Lipo, and Tim Hunt (all, Washington)

[10] Artifact Style Dynamics I: A Network Model of Cultural Transmission in Spatially Varying Populations

As part of an expanded evolutionary theory, a model of cultural transmission must generate spatial predictions for the structure of inheritance over time and space. Since selection measures interactions between both dimensions, a critical test of any transmission model is the ability to deduce selection as a function of the distribution of equal assemblage duration and restriction to small local areas. We describe effective selection methods from a network model of transmission using both analytic methods and computer simulation.

Magoon-Gardiner, Bonnie (National Endowment for the Humanities) and Steven Falconer (Alaska State)

[58] Demand and Production in a Second Millennium B.C. Levantine Village

This paper examines changes in ceramic production methods in an agrarian village during a 400-year period of regional population growth and increasing political complexity. We characterized four successive periods of occupation by tabulating the range of functional types. Production methods are analyzed at each site and compared with data from other Levantine sites. The relationship between demand and production is analyzed for each period. This evidence suggests that production is increasing but not uniformly specialized over time. Items subject to specialized production are used for storage and food consumption.

Maloney, Nancy, Andrew I. Duff, and Keith W. Kintigh (all, Arizona State)

[111] The Role of Chacoan Outliers in Local Organization

In this paper, we examine the social and political organization of the Chacoan elite in the context of local communities. We analyze the social and political organization of the Chacoan elite in the context of local communities. We examine the social and political organization of the Chacoan elite in the context of local communities.

Majewski, Teresa (Statistical Research): [74] (see Doelle, William H.)

Makit, Sheri A. (Northern Arizona): [136] (see Hunter, Andrea A.)

Maldonado C., Ruben (NAI-Centro Regional de Yucatan): [130] (see Karjat, Edward B.)

Malinowski, Lynn M. and Ronnie L. Moeller (both, Argonne National Laboratory)

[135] The Archaeology of the Intermountain West: A Regional Perspective From Browns Park in Utah and Colorado

Browns Park is an isolated upland basin located between Red Canyon and the Canyon of Lodore in the Green River Valley of the central Rocky Mountains. Geomorphic characteristics include a series of Tertiary terraces with overlying Quaternary bench gravels and a low terrace of Hocene sand, interspersed with bedrock outcrops. Past surveys have yielded a unique and well-preserved archaeological sequence ranging from Archaic camps to 19th-century outwash hayfields. Investigations reveal patterns of land use that correlate to the geomorphology of the basin, further contributing to our understanding of the intermountain region.

Malinoff, Robert J. (Texas Historical Commission)


The Horace Rivers Site (41HH23) is a short-term Plainview campsite in the northeastern Texas Panhandle. The site is located on an alluvial terrace remnant of a minor tributary of the Canadian River at the base of the Hight Plains escarpment. Combining excellent stratigraphy, good faunal preservation, and a relatively uncontaminated cultural component, interdisciplinary studies at the site are providing new insights into Plainview lifeways and paleoenvironmental development during the period 900-1000 B.C. This paper explores the potential for a regional perspective on early Plains occupation patterns.

Mandryk, Carole A. S. (Harvard)

[12] Lake-Level Fluctuations and Geochronological Implications of the Tule Lake Basin, Northern California

During the late 19th century, a historical geochronological survey was done to the Tule Lake Basin, in order to establish the effect of climatic factors on the California fire danger. Water level changes, beach formations, and the apparent delta suggest several extended periods of higher lake levels both prior to and after the earliest (ca. 11,500 B.C.) occupation of the area. Mapping of these features allows tentative correlation between prehistoric lake levels and geological sites as well as allowing prediction of additional optimal depositional contexts and open site locations for Early Paleoeisian occupations in this productive lake/marsh/wetland environment.

Mandel, Roife: [129] (see Saunders, Joe)

Mangen, Patricia H. (Massachusetts-Amherst)

[113] Measure for Measure: Bridging Archaeological Theory and Method

Archaeologists often face distinctive problems when trying to operationalize their theories. The recent theoretical contributions made regarding the spatial dimensions of power relations and social change. Methods have been often inadequate for getting at data that effectively bridge theoretical concerns. This paper addresses how archaeologists might integrate theory and method in spatial analysis by considering perspectives employed by various disciplines. Examples are drawn from changes in the built environment and their relationship to socioeconomic and political relations.

Mann, Daniel H. (Alaska-Fairbanks): [100] (see Crowell, Aron)

Manning, Andrew (Texas-Austin)

[13] Cultural Insights into the Late Classic Maya through Material Characterization

This paper outlines a procedure to gain insight into ancient Maya ceramic production through the material characterization of selected Late Classic ceramics found near several sites along the Rio Bravo in northwestern Belize. Material characterization in this project consists of a two-phase approach in which the inorganic trace element constituents of ceramics, along with any organic residues, will be assessed. Trade, intersite contact, ceramic function, diet, ritual and ceremonial activities, as well as medicinal and ritual plant use, will be addressed.

Manuel, Donald (Bureau of Land Management): [132] (see Kaldenberg, Russell L.)
Mancanilla, Linda (Instituto de Investigaciones Antropológicas)

[Serrat] Sacred Geography and Ritual Behavior in Caves at Teotihuacan, Mexico

Under one of the main urban developments of prehispanic times Teotihuacan, a series of tunnels which were formerly extraction mines for construction materials were further used for ritual practices, thus the concept of an underworld particularly related with Tlaloc emerges, recent data from ongoing project headed by the author reveal ritual behavior related to sacred geography, and the environment.

Markantonatos, Marina (Texas-Austin)

[Basilicata, South Italy: Elite Iron Age Women and the Power Game]

Two alternative theories explain how tools and weapons found in Iron Age indigenous elite female tombs in Basilicata, South Italy. Metal tools were functional and could have been used in domestic pursuits. But the ceremonial weapons and paraphernalia seen in some elite female burials indicate that elite women were able to attain positions of power and prestige within this culture in the sixth century B.C. This could be taken to indicate that the positions of control were not limited to males. It is suggested here that elite females who possessed ceremonial weapons and paraphernalia, which are symbols of social and ritual power for men, may also have exercised such power within the indigenous Iron Age culture.

Marks, Anthony E. (Southern Methodist) and Victor Chabai (Institute of Archaeology, Ukraine)

[The Middle and Upper Paleolithic of the Crimea: Continuity or Disjuncts?]

This paper examines what is now known of Middle and Upper Paleolithic chronology and cultural variability in the Crimea, with emphasis on the Late Middle Paleolithic and Early Upper Paleolithic. While the Crimea was densely populated during the MP, there is little evidence for Early Upper Paleolithic occupation. In fact, it is argued that some Crimean Middle Paleolithic lasted until perhaps 30,000 B.P., while the earliest evidence for the Upper Paleolithic may be as late as 24,000 B.P. This and other evidence indicate no developmental continuity between the MP and UP.

Marrs, Robert (National Park Service) and Martin E. McAlister (Archaeological Resource Investigations)

[The Law Enforcement Workshop: Prosecution, Training, Interagency Cooperation, Information Sharing and Investigative Technologies]

The Law Enforcement Working Group at SAA's Save the Past for the Future conference, addressed five topics. The Prosecution Group discussed and evaluated ways to increase the number and quality of ARPA criminal and civil prosecutions. In the Training Group, current ARPA training programs were evaluated and new training programs were suggested. The Interagency Cooperation Group addressed ways to enhance cooperation between the various agencies involved in the investigation of archaeological violations. Starting information and criminal intelligence related to archaeological violations. Finally, the Investigative Technologies Group discussed current and developing law enforcement technologies that can be utilized to enhance detection and investigation of archaeological violations.

Martin, M. Scott (Delaware) [see Johnson, Gerald H.]

[Martin, Debra L. (Hampshire)]

[Live wikileaf: The Political Economy of Violence Against Anasazi Women]

Data on biological evidence for violence against Anasazi women suggests that some communities have higher frequencies than others. For example, the La Plata sample has unusually high rates (42%) of cranial trauma. Patterns of violence at sites from Mesa Verde, Chaco and Kayenta suggest demonstrable variability in the economic context of violence against women in these settings.

Martin, Patrick E. (Michigan Tech) [see Martin, Susan R.]

Martin, Robert A.: [see Hurst, W. Jeff]

Martin, Susan R. and Patrick E. Martin (both, Michigan Tech)

[Oldest Utilized Copper Deposit Tells All: Current Understandings of the Significance of Keweenaw Copper for North American Prehistory]

A variety of sources of native copper was utilized by people throughout North American prehistory, and its use, users and extraction localized through time. In this light, it is prudent to establish what is known about the world's largest and perhaps longest exploited sources of native copper, the Keweenaw deposits of the Lake Superior Basin. Using Griffin's 1991 summary as a starting point, this paper establishes what is currently understood about the prehistoric extraction and industry of the Keweenaw deposits. A model locating the Keweenaw sources within a regional use system is offered.

Mascher, Herbert D. G., Caroline L. Funk, and James W. Jordan (all, Wisconsin-Madison)

[Paleoecology, Landscape Evolution, and Prehistoric Allotment Settlement Systems on the Lower Alaska Peninsula and Umbak Island]

We have shown that occupation of these localities occurred under very different environmental conditions in the lagoon or anywhere near along the adjacent Bering Sea shoreline, indicates that the lagoon was Site is on a remnant beach terrace now covered by dune sands suggests that dune formation, rapid lagunal infilling, and barrier inland construction were products of a catastrophic event or rapid prehistoric populations on the Bering Sea side of the lower Alaska Peninsula to early historic villages on the Pacific Ocean side of the peninsula.

Mason, Ronald J. (Lawrence): [51] Discussion

Masse, W. Bruce

[Foremost in the Firmament: Temporary Celestial Events and Culture Change in the Southwest]

Historical social science has long been interested in the role played by the physical environment in the evolution and culture of contemporary societies. However, we have virtually ignored what was likely the most visually spectacular component of the physical environment, namely, the celestial phenomena, novae, comets, meteor showers, eclipses, and planetary conjunctions. This paper utilizes this aspect of the celestial environment to reevaluate our understanding of past cultures.

Masson, Marilyn (Texas-Austin)

[Community Feasting Rituals and Postclassical Maya Village Political Structures: Evidence from Archaeofunal Remains]

Courtship rituals of Classic Maya have been interpreted as village level transformations (write small) of rituals enacted in monumental centers by Classic period elites. Spatial analysis of faunal remains and projectile points from Laguna de Chon, Belize suggests that butchering and perhaps host was held at the residences of community leaders, along with other rituals promoting village solidarity. The control of hunting, butchering, and feasting was a major factor in the political economy of southern lowland Maya Postclassic communities. The articulation of animal use and political structures is reflected in the distribution of abundant faunal deposits associated with residences of this period.

Masucci, Maria (Drew)

[The Nature and Identification of Marine Shells Working at Prehistoric Guagua Phase Sites in Southeast Ecuador]

Spatial analysis of artifacts at a Guagua Phase settlement site in southeast Ecuador (1000 B.C.-A.D. 800) is used to examine concentrations of materials associated with shell workshops. Analyses of similar concentrations at nearby contemporary surface sites contribute additional data to this discussion of shell working activity areas and disposal patterns. The analyses of artifacts remain shell working activities organized at a household level, in an understanding of both shell and organic manufacturing during this time period.

Mathews, James Edward (Field Museum of Natural History)

[The Formative-Twannaku Period Transition in the South-East Titicaca Basin, Bolivia]

Recent archaeological and excavations in the Titicaca Valley of Bolivia have begun to clarify our understanding of the sociopolitical and economic development in the Titicaca basin's state of economic production that permitted the emergence of the empire as a dominant power in the southwest.

Maises, M., Ramiro (McMaster); [49] Discussion

Maulein, Raymond P. (New Mexico): [30] (see Leaf, Jeff D.)
Maudlin, Raymond P. (New Mexico), Daniel S. Antick (Desert Research Institute, Reno), and William C. Frentz (Frontier Archaeology)

Effect of Raw Material on Flake Breakage Patterns

[28] Effective use of raw materials can exert significant influences on resulting flakes. The behavior and characteristics of chert flakes are different from those of quartz or obsidian. While the use and selection of raw material often affect the flaking process, it also determines the final shape of the flakes. The shape and size of the flakes are closely related to the raw material properties. Therefore, the study of flake breakage patterns can contribute to the understanding of cultural and technological processes. This paper presents a new approach to the study of flake breakage patterns based on the analysis of raw material properties.

Maxwell, David (Arizona)

Tikal and Uaxactun: A Comparison of Caches

Recent glyphic discoveries have revealed a significant interaction between Tikal and Uaxactun. This interaction is evidenced by the similarities in glyphic styles and themes. While Tikal was the center of a powerful state, Uaxactun was more decentralized with a network of smaller centers. The comparison of caches from these sites may provide insights into the economic and social interactions between these two locations. This paper presents the preliminary results of the cache comparison project.

McAllister, Martha E. (Archaeological Resource Investigations)

Let Your Fingers Do the Finding: Identification of Artifact Dealers Using the Yellow Pages

A method has been developed to identify prehistoric and historic artifact dealers based on listings in the yellow pages of telephone directories. This paper outlines the steps involved in the identification process and describes the application of the method in a project designed to locate formal and informal dealers. The results of this study provide a useful database for future research.

McAnony, Patricia A. (Boston); [50] (see Angelini, Mary Lee)

McAndrews, Tim (Pittsburgh)

Tiwakanu Core and Periphery Regions: A Settlement Pattern Approach

At its height, Tiwanaku was one of the largest settlements in the Andes. The site was strategically located with access to rich agricultural land and resources. The core region of Tiwanaku was surrounded by a surrounding region, which served as a buffer zone. This paper presents a new approach to the study of the settlement patterns in the Tiwanaku region based on the analysis of archaeological data.

McCoy, Joseph M. (Archaeological Society of Virginia); [87] (see Johnson, Gerald H.)

McCafferty, Geoffrey G. (Brown); [23] (see McCafferty, Sharrise D.)

McCafferty, Geoffrey G. (Brown) and Sergio Suarez Cruz (INAH-Centro Regional de Puebla)

The Classic Postclassic Transition at Cholula: Recent Investigations at the Great Pyramid

The Cholula Pyramid is one of the largest pyramids in the world. Recent investigations have revealed new evidence of the pyramid's construction and use. The results of these investigations provide new insights into the history of the Cholula site and its role in the development of pre-Columbian Mesoamerica.

McCullough, Tom (Advisory Council on Historic Preservation); [25] Discussant

McCullough, David J. (Army Corps of Engineers)

Historic Preservation Investigations at the Cerrillos Dam and Lake: An Overview

The United States Army Corps of Engineers, in cooperation with the New Mexico State Historic Preservation Office, conducted investigations at the Cerrillos Dam and Lake. The project aimed to identify historic resources and to determine the impact of the dam construction on these resources. The results of these investigations are presented in this paper.

McCutcheon, Patrick T. (Washington)

Evolutionary Fitness of Stone Tool Heat-Treatment Technology

Nearly sixty years of research has demonstrated that stone tool heat-treatment was practiced in prehistory and that it has a discontinuous, global distribution. While explanations for this distribution focus on thermally induced increases in 'workability,' the effects of heat-treatment on tool performance or the ability to produce new tools receive only cursory attention. For heat-treatment technology to persist, advantages gained in stone tool production and/or use must outweigh losses incurred during production and use. This paper presents a model to explain the fitness of stone tool heat-treatment over a 1000 year period in Southeast Missouri.

McElrath, Dale (Illinois-Urbana/Champaign)

Defining Archaic Cultures in the American Bottom

The Development of a Fine-Grained Culture Chronology for the Middle Archaic Period in the American Bottom has provided insight into the extent of population interactions and movements in the midcontinent during this period. Based on the archaeological record, several distinct cultures can...
revealed new information on ancient sea level changes and settlement patterns. That the coastal area virtually lacks modern settlement in favor of mangrove swamps was not a deterrent to the Classic Maya: a sea level rise is documented by excavations at 12 Classic sites that are either underwater, below the water table on land, or deeply buried beneath mangroves. Settlement locations, stratigraphic profiles, radiocarbon dates, and paleoecological data are evaluated to document the sea level rise and predict land available for ancient settlement.

McManamon, Francis P. (National Park Service)

[134] The Paleolimnological Project and the National Park Service Archeological National Landmark Initiative

Begun as a partnership project between the National Park Service Archeological Assistance and History Division, the Archeological National Landmark Initiative has resulted in the identification, evaluation, and designation of nearly fifty new archeological NHLs since 1988. Working together with State Historic Preservation Offices and other preservation partners, Archeological Assistance and History Division staff have used the NHL theme study framework as a systematic and contextual framework for many of these designations. The recently begun Paleolimnology theme study represents the first nationwide effort of its type since the completion of the first series of archeological theme studies in the early 1960s.

McMillan, Garnett P. (New Mexico)

[10] An Examination of Some Archaeological Assemblage Distance Measures

Distance measures that estimate assemblage similarity are commonly applied in the initial phase of seriation research. It is therefore important to consider the appropriateness of these measures. This paper examines the assumptions required by four distance measures: Brainard-Robinson's 'coefficient', Euclidian Distance, Mahalanobis Distance, and Pearson's 'chi-square. Each is evaluated on theoretical grounds and relative to the kind of data archaeologists typically use. It is concluded that the Pearson's 'chi-square is the best measure where mutually exclusive categorical data are used, and that the Mahalanobis Distance is best where nonmutually exclusive and combinations of data are used.

Mear, C. E. (Texas-Austin) [9] (see Collins, Michael B.)

Meatte, Daniel (Washington State Parks)

[13] Ochre

Archaeologists throughout the world have recognized the use of ochre as a pigment for rock art and as a colorant imbued with symbolic meaning. The artworks of Lascaux Cave and the Triple Celtic burial at Dolni Vestonice are two outstanding examples. Yet, archaeologists often find ochre in contexts that preclude common interpretations of artistic or ceremonial behavior. This paper will summarize evidence for several utilization uses of ochre. Specifically, ochre served as: 1) a preservative in protecting hides from decomposition, 2) a waterproofing agent for leather clothing and housing covers, 3) an abrasive for strengthening stone tool edges and 4) as an insecticide.

Meiker, Mark (Northern Illinois)

[20] Initial Late Woodland Domestic and Community Planning in Northern Illinois

An early Late Woodland occupation has been excavated at a large site along the middle Rock River in northern Illinois. Communal structures and household clusters with domestic shelters and work place activity areas give an indication of the settlement's social organization. Information regarding domestic settlements and communities from this period is rare and this new evidence of community planning sheds light on the social transformations manifested with the shift from Middle Woodland to late Woodland.

Mercado-Allinger, Pat (Texas Historical Commission)

[34] State Archaeology Weeks

An important aspect of archeological site preservation is public outreach. Since the early 1980s various states have embraced the 'State Archaeology Week' approach as a way to focus the public's attention on the significance and fragility of archaeological resources. While the goal of public outreach has been to encourage year-round archeological awareness, archeology weeks provide a focal point for special events including lectures, exhibits, tours, and demonstrations. The variety of state programs includes a state that has sponsored its first observances to those that have had extensive experience with this form of public outreach.

Meltzer, David J. (Southern Methodist) [36] Discussant
Mentz, Steven (Illinois-Urbana/Champaign)

[97] The Aurignacian and the Early Upper Paleolithic in Romania

Recent publications have proposed an association between the spread of fully modern humans in Europe and the Early Upper Paleolithic technology known as the Aurignacian. Unfortunately, these studies rely exclusively on data from western Europe. Aurignacian lithic assemblages have been described from Early Upper Paleolithic sites in Romania. These assemblages do not, however, fit the traditional definition of the Aurignacian as it is known from western Europe. This paper will discuss the current state of knowledge concerning the Early Upper Paleolithic in Romania and whether these assemblages are representative of the Aurignacian technology.

Metcalfe, Mary P. (Virginia)

[118] Political Organization and Access to Resources in the Prehistoric Northern Southwest

A.D. 1000-1300.

The political organization of the prehistoric puebloans, including the degree of intrasite hierarchy, continues to be an area of debate. Within non-state level groups hierarchy is based on privileged access to scarce things, including material goods and ecotonic knowledge. This research will consider access to these things. The location of storage facilities and civic spaces (specifically kivas and towns) will be examined using control points, Konig numbers, and demographic and accessibility indices. Data from the Chaco Canyon and Mesa Verde regions between A.D. 1000 and 1300 will be used.

Michielnic, Michael G. (Moorhead State)

[120] An Early Archaic Site on the Northeastern Plains

The Rustad Site (32R1775) is an Early Archaic period site along the Cheyenne River in North Dakota. Radiocarbon dates bracket at least two occupations between 7700-7100 radiocarbon years B.P. Preliminary data indicates a heavy use of bone, complemented by small game, use of lithic materials from the western Plains and from the northwestern Minnesota woodlands, and a small dumpage of projectile points indicative of a weapon system not widely recognized for this period in North American culture history. These finds improve our understanding of human use of the Plains environment during the Atlantic climatic episode.

Middleton, William D. (Laboratory for Archaeological Chemistry)

[56] Microbeblistage Evidence for the Organization of Production at the Eluja Site

Microbebelasting evidence was conducted on sediment samples from each excavation unit of the Eluja Site and from samples taken from the structure. These analyses demonstrate that both shell and lithic production were occurring within the structure and suggest that greenstone mining may have also been practiced. The microbebelasting also indicate that there was a single general work area within the structure, obsidian and chert as well as greenstone and marine shell appear to have been worked/used at separate loci within this. This suggests that production at the Eluja structure was well organized with specific tasks being allocated their own work area within a larger formal workspace.

Mikkelsen, Peter Hambro (University of Aarhus): [128] (see Robinson, David Earle)

Mikszteck, Charles H. (BioSystems Analysis)


Archaeobotanical data collected from various California sites suggest that the plant food contribution to subsistence was far more diverse than the acorn-dominated diet predicted from late 19th century ethnographies. A complex of grasses (little barley, mugwort, ryegrass, legumes (Lotus, clover, lupine), and small seeds (goosefoot, chia, tarweed) is present in California throughout the year. These grass-legume-seed complex has strong parallels with archaeological data from sites in eastern North America and Early Neolithic sites in the Near East. Several of these taxon demonstrate morphological changes that suggest some degree of selection or environmental management beyond the simple gathering of a "wild plant." These data suggest that pre-contact California could prove to be an important testing ground for many models for the "Origins of Agriculture."

Miller, Gifford H. (Colorado)

[196] Persistent Aridity Across the Australian Interior Resulting from Human-Induced Late Holocene Vegetation Change

The Lake Eyre Basin, a monsoon-dominated interior-drained basin covering one-sixth of the Australian continent, preserves a record of wet intervals, characterized by sustained stream flow and lake formation, and intervening aridity, with accompanying abrupt destabilization and mass movements of sediments. Lake levels, and improved dating techniques have allowed reconstruction of wet intervals with high precision. The Lake Eyre Basin has had a complex vegetation history. The post-150 k year period is characterized by the expansion of wetland vegetation. However, the role of humans in this process is not clear. The early Holocene monsoon is hypothesized to

result from widespread vegetation change brought on by systematic burning by the earliest human immigrants beginning 50-60 k ago.

Miller, Harry (U.S. Army, CERL): [72] (see Zeidler, James A.)

Miller, Heidi J. (Harvard)

[123] Tyranny of Ta Label: Bronze Age "Seals" of the Harappan Civilization

Seals, sealings and texts from Mesopotamia demonstrate the economic and administrative functions of seals and writing played in the past. The inscribed objects of the Harappan Civilization have been labelled "seals" and consequently been interpreted within the same economic paradigm, however, without supporting evidence. The paradigm inherent in the label "seal" has overshadowed non-economic interpretations of objects from the Indus valley as well as Mesopotamia downplaying their alternate roles, for example, as amulets or social markers. Additional views, obscured by how we label objects, must be pursued in order to understand the full range of roles inscribed objects and writing may have played in past societies.

Miller-Antonio, Sari (California State-Stanislaus), Huang Wenwen (Institute of Vert. Paleontology and Stratigraphy, Beijing), Shi Xingqiang (Cultural Relics Management Committee, Guizhou Province, China), and Lynne Schepartz (Cincinnati)

[119] Excavations at the Stratified Cave of Panxian Dongson, Guizhou Province, Southern China

Panxian Dongson (Panxian means "Grand Cave") is a recently discovered stratified cave located in the Karst topographic region of the western Guizhou Plateau. During two initial field seasons in 1992 and 1993, 52 m2 of the existing 8000 m2 of cave deposits have yielded fragmentary remains of over 40 species of mammalian fossils, more than 2000 stone artifacts, evidence for use of fire and one fragmentary hominid tooth. Panxian Dongson's potential as a Paleolithic site, its chronology, and the interpretation of the archaeological artifacts within the greater context of East Asian prehistory will be discussed.

Miller, Virginia (Illinois-Chicago)

[118] Smoking Mirror at Chichen Itza

Although considered a Classic Mexican site, Tzecatilcoapa is first represented in Mesoamerica not by Tula but at Chichen Itza. Several beliefs depict warriors with a severed head terminating in a smoking mirror, while another shows a serpent-footed figure who does not appear to be the Maya God, but whose images are far less common than the ubiquitous feathered serpents at the site, their existence in certain versions of the Toltec myth regarding the epic of Quetzalcoatl and Tzecatilcoapa was known there. The place of these Tzecatilcoapa impersonators within the political structure and belief system of Chichen Itza will be examined.

Mills, Barbara J. (Arizona) and T. J. Ferguson (Institute of the North American West)

[83] Tempo and Mode in the Life Histories of Domestic Architecture: An Ethnoarchaeological Approach

Buildings are continually transformed through the activities of construction, repair, reconstruction, reuse, and disuse. The metaphor of life history is applied ethnoarchaeologically to describe the behavioral events leading to the form of domestic architecture as recorded archaeologically. Harris matrices are used to summarize the sequence of events evident in standing structures at Zuñi pueblos. Change in the tempo and mode of events between structures in a single pueblo suggests that we are able to understand how the life histories of buildings are patterned by factors such as structure use, the domestic cycle, duration of site occupation, and abandonment processes.

Milsner, Claire McHale (Pennsylvania State): [104] (see Neutius, Sarah W.)

Milsner, Claire McHale (Pennsylvania State) and John M. O'Shea (Michigan)

[104] The Changing Role of Earthwork Enclosures During the Woodland Period in Michigan

The traditional assumption that Michigan earthwork enclosures served a defensive or ceremonial purpose is not consistent with these sites' internal features or materials, nor can they account for the introduction of the earthworks across the physical and social landscape. Rather, the enclosures played a persistent role in the social and political integration of regional populations. The specific function changed over time among the Woodland Period from that of a seasonal focus for early and Middle Woodland dispersed foragers to that of a neutral trade rendezvous on the Great Lakes. The focus for late Woodland and Late Woodland groups to that of a formal social and political sanctuary located at places between major Late Prehistoric social divisions.

Miracle, Preston and Tracey Cramanet (both, Michigan) [97] Just Who Were Those "Aurignacians"? Vindija's Place in the Central European Early Upper Paleolithic

The position of Central Europe on the corridor linking the Near East and the rest of Europe makes it critical to our understanding of the emergence of European Early Upper Paleolithic industries. The Croatian site of Vindija poses a particular problem in understanding the EUP of the region because of what appears, given common preconceptions, to be an unexpected hominin-industrial association. After placing the site in its palaeoanthropological, archaeological, and historical context, we address three questions: First, is the industry at Vindija "Aurignacian"? Second, which hominids are associated with this industry? Finally, what are the behavioral implications of this association?

Madden, Sharon (Montclair State): [113] (see Walling, Stanley L.)

Mitchem, Jeffrey M. (Arkansas Archeological Survey)

[120] Investigating the Mississippian Palisade and Probstitial Houses at the Parkin Site, Northeast Arkansas

Excavations at the Parkin site in the summer of 1994 had two main objectives: to further investigate the defensive palisade and to continue exposing a probistical structure and associated features. Both of these areas had been partially excavated in 1993. The palisade research uncovered stockade postholes and part of a probable bawon or guardhouse. Continuing excavations in the village exposed a well-preserved fired clay floor and lead to the identification of the doorway.

Mitchum, Beverly A. (Pennsylvania Historical and Museum Commission)

[80] Networks for Archaeological Education: The importance of the Early Arms program expanded and developed a network for the exchange and dissemination of information and ideas related to archaeology and education, the network is the delivery system for public education information. The conference work group developed action items in three areas: 1) focusing on the roles and responsibilities of the network; 2) expanding the network to reach additional publics; and 3) expanding the network as a delivery system through the exploration of those new technologies which constitute the information superhighway.

Mitchum, Beverly A. (Pennsylvania Historical and Museum Commission) and Kathryn Rest-Taylor (Texas-Austin)

[94] Investigations of a Small Structure in the Monumental Center at Cerros, Belize

The site of Cerros in Northern Belize has been well documented as the major Late Preclassic center in the region. Previous investigations have examined large monumental constructions, especially those on the summit and monumental structures in the surrounding dispersed ceremonial area. Excavations during the summer of 1994 in a small structure in the monumental center investigated the function of one of these small buildings (Structure SE). This paper examines the evidence for the identification of this structure as an elite residence during the Late Preclassic and for its reuse during the Late Classic Terminal occupation of the site.

Mooney, Jeanette (University of Colorado Museum) and Janet L. Griffiths (University of Colorado Museum)

[50] Residues Seen on Prehistoric Bone Tools Under the Microscope

The analysis of prehistoric residues on stone tools has yielded interesting and sometimes controversial results in recent years, but few other artifact classes have been examined in similar ways. Preliminary examinations of bone tools from several sites in southwestern U.S. various sites have been observed using both high magnification incident light and scanning electron microscopy. A description of the residues will be provided, as well as a discussion of what they represent and how they relate to bone tool use. Aspects of polish, staining, or wear patterns that correlate with residues will be discussed.

Mock, Shirley Boteler (Texas-Austin)

[64] Monke Business at NRL: Core-Periphery Exchange and Ideological Spheres in Northern Belize

Recent evidence from coastal sites in Belize has resulted in a broadening of our understanding of cultural adaptations during the Late Terminal Classic Period (A.D. 650-900) in the southern Maya Lowlands. One of these coastal settlements, Northern River Lagoon, has been examined in detail, although on the fringes of this society, was actively involved in specialized saltmaking, fish processing, and intra- and inter-regional exchange to ally resource imbalances at inland communities. Using a core-periphery framework this paper uses data from NRL to explore economic, ideological, and political connections to one of these communities, Collca. Of particular significance to this study is the restricted distribution of large hominoid polychrome plates with monkey designs.

Moeller, Konnie L. (Argonne National Laboratory): [135] (see Malinowski, Lynn M.)

Moeller, Konnie L. and John Hoffecker (both, Argonne National Laboratory)

[126] Historical Geophysical Survey and Archaeological Survey Strategy: Applications in Cultural Resource Management

An "applied geophysics" approach was employed in the design of archaeological field surveys for two U.S. Air Force bases in widely differing landscape settings: McCord AFB (Washington) and Andrews AFB (Maryland). McCord AFB occupies an area of mixed Modern Classic and Late Glacial dating to the Late Glacial, while Andrews AFB lies on an eroding plain of unconsolidated Tertiary deposits. Sampling strategies were developed through application of local and regional historical geophysical surveys, including the history of human land disturbance, in each setting.

Moffatt, Charles R. and Robert F. Boschardt (both, Missouri Valley Archaeology Center)

[133] Sand County Prehistory: The Late Woodland Settlement of the Central Wisconsin River Drainage

Recent surveys and test excavations around Castle Rock and Petenwell Flows in central Wisconsin have identified numerous Late Woodland camps that correspond to the Effigy Mound tradition. Many sites are aligned with abandoned meanders of the Wisconsin and Yellow rivers and are common along the edges of late Pleistocene and early Holocene terraces. Isolated mound or mound group sites occur near some sites. Late Woodland sites typically yield Madison Cord-Impressed, Madison Plain and net-pressed ceramics. Lithic assemblages are composed largely of quartzite artifacts and include a distinctive serrated variant of the Madison triangular point type.

Moffitt, Kyle (California-Riverside): [43] (see Prior, Christine)

Moholy-Nagy, Hattula (Tikal Project)

[20] Contexts of Shell Artifact Production and Consumption at Tikal

Debitage recovery contexts provide useable data about the production and consumption of shell artifacts at an important Maya city. Tikal inhabitants made or assembled products out of marine shell and freshwater mollusks, and the perforated and ritual objects of marine shells and freshwater mussel shells are associated with the city. The disposal contexts of production waste appear to have been primarily determined by the kind of shell. Shells used by commoners were disposed of on the artificers' households. Artificers from Early Classic through Late Classic times (ca. A.D. 250-700) nearly all Spondylus debitage was buried in midden and structure contexts.

Monaghan, John (Vanderbilt)

[50] Feasting in Mesoamerica as a Total Social Phenomenon

Ethnographic accounts of Mesoamerican feasting have concerned themselves with feasts and the consequences of different methods for feasting by feasts and for community organization. This focus has obscured the fact that the feast is a meaningful activity for all participants, being a "total" social phenomenon with a variety of functions. Using ethnographic and historical materials from the Mixtec region, this paper examines the role of the feast that played in the ancient tribute system, discusses the ways that linkages to marriage alliances, and illustrates the way a specific image of society is created through the exchanges that take place within it.

Monahan, Christopher M. (Smithsonian)


Scanning electron microscopy (SEM) of archaeofaunas from Bed II, Olduvai Gorge (1.7-1.2 mya) is used to test the author's macroscopic identification of surficial modifications. The distribution of hominid behavior is evaluated using the stone tool as an example. These two techniques have implications derived from the "multiple place foraging" (MPF) model of early hominid behavior. MPF, a flexible, highly mobile and nonspecialized approach to resource acquisition, is contrasted with other models of emerging hominid carnivory. Particularly in contrast to other Lower Pleistocene sites, the Bed II data reflect significant variability in the behavior of early Homo erectus.

Monckton, Stephen G. (Royal Ontario Museum), Anita Buehrle (GYRA-Toronto), and Roy McCrory (Minneapolis)

[95] Environmental Trends at the End of the PPNB: Feast or Famine?

Over the past 25 years, various researchers have sought to explain PPNB abandon and apparent discontinuity with the Late Neolithic as a result of environmental degradation. New botanical evidence from the Wadi Ziqab and elsewhere allow us to question this interpretation.
Monger, H. Curtis (New Mexico State): [30] (see Leach, Jeff D.)
Montiel-White, Anita (Kansas): [16] (see Banks, William E.)
Montgomery, Barbara K. (Statistical Research): [85] (see Reid, J. Jefferson)
Moore, Andrew M. T. (Yale): [95] Discussant
Moore, James (Queens): [102] Discussant
Moore, Katherine M. (Bentley): [77] (see Hiebert, Fredrik T.)
Moratto, Michael J. (INFOTEC Research): [48] Discussant
Morgan, Kim (Vanderbilt): [52] (see Danneert, Arthur)

Morris, Craig (American Museum of Natural History)
[125] Patterns of Inka Imperial Rule in Three Incas-Centered Provinces
One of the hallmarks of Inka imperial rule was flexibility. There were underlying principles of conquest and control in the empire's diverse areas, but strategies of rule differed depending on the natural resources, the extent of sociopolitical centralization and the degree of resistance to the Inca in the incorporated regions. The paper compares results of archaeological research in the Peruvian highlands, the south-central coast of Peru, and the eastern Bolivian Andes. The patterns of native empire based on understanding varying local social and economic conditions contrast sharply with European imperial practices introduced after 1532.

Morrison, Kathleen D. (Northwestern)
[96] Terracing and Erosion in the Dry Zone of Southern India: Landscape Changes and Their Impact on Agriculture
The contemporary degraded environment of interior southern India appears to be the product of discontinuous episodes of change associated with periods of high population density. I discuss results of preliminary excavations and sediment analysis from a precolonial agricultural terrace/reservoir complex and consider the role of terracing in overall efforts to control soil movement on and below terraced hillsides. Studies of a range of facilities suggests that some terraces were constructed as part of larger-scale strategies of soil control, implying that the economic and organizational implications of terraced agriculture may not be explicable apart from consideration of entire landscapes.

Morrow, Juliet E. (Iowa)
This paper presents an approach for monitoring changes in endscaper morphology and maintenance. Metric attributes are used to document degrees of resharpening and exhaustion for a series of endscapers from Paleolithic sites in the Mississippi-Illinois River valley region. Striking platform attributes are used to identify various technological steps in core/biface reduction that yielded blanks for scrapers. Plotted against distance from raw material source areas, these metric and morphological attributes provide insight into Paleolithic technological organization and mobility.

Morrow, Toby (Iowa)
[28] A Chip Off the Old Block: A Systematic Approach to Debitage Morphology
Each flake carries traces of the morphology of the piece from which it was derived. However, most systematic/and replicable approaches to debitage analysis do not monitor important aspects of flake morphology. In the analytical system presented here, nonmetric attributes of striking platforms and dorsal flake scars are coded along with general size grade. The method yields a numerical code describing flake morphology that can be readily distinguished from flake size and flaking techniques. More importantly, however, this approach can be used to identify distinct patterns in reduction strategy and even differentiate the byproducts of making specific tools.

Morton, Susan D. (National Park Service)
[29] Alternatives for Controlling Illegal Trafficking in Antiquities: A Report to the U.S. Congress
The illicit looting and smuggling of archeological material to supply the international antiquities market has continued to explode as antiquities bring a spiraling price on the international market. The national and worldwide commodification of our archeological heritage and resource base has had devastating consequences for the record of the human past. This paper summarizes a report commissioned by the U.S. Congress to study the illicit traffic in antiquities and make recommendations for controlling the illicit trade.

Moscioni, Maurizio (Università "La Sapienza," Rome): [76] (see Cazzella, Alberto)

Motsinger, Thomas N. and Mark L. Chewault (both, SWCA, Inc.)
[118] Stockpiled Basketmaker Sites in the Mesa Verde Region
Excavations in the Mesa Verde region of southwestern Colorado have demonstrated that a sizable proportion of Ancestral Puebloan habitation sites dating to the Basketmaker III period were surrounded by stockade-style enclosures. In this paper, we review the essential attributes, spatial distribution, and temporal patterning of stockpiled sites in the region. These data are brought to bear on possible functions of stockades and the sociocultural mechanisms that may have precipitated their appearance.

Mueller, Raymond G. (Richard Stockton) and Arthur A. Joyce (Vanderbilt)
[82] Middle/Late Holocene Landscape Change and Settlement Dynamics in Oaxaca, Mexico
This paper reports the results of interdisciplinary research on the interaction of landscape change and demography within the Rio Verde drainage basin. Sedimentological research in the Oaxacan highlands and lowlands has provided evidence for two periods of geomorphic change. The first occurred in the mid-Holocene with a shift toward increased precipitation and land surface instability. The second period, due to Late Formative agricultural expansion which triggered lowland alluviation, we discuss how these geomorphic changes may have affected settlement patterns and demography in the highlands as well as the coastal lowlands.

Muench, Elizabeth: [94] (see Rich, Michelle E.)

Mutholland, Susan C. (Minnesota-Duluth)
[131] Activities at a Brainered Habitation: The Phytholoch Evidence
The Roosevelt Lake Narrows Site in Cass County, Minnesota, contains a Middle Woodland (Brainered) habitation. Material remains include abundant ceramics, lithics, and bone. Sediments sampled on a 1/4-meter grid across 12 square meters of a living floor were tested for phytolith content. In addition, two columns were sampled by natural stratigraphy from 0 to 50 cm. The results when compared to the artifact distribution provide a test for determination of activity areas.

[51] (see Peters, Gordon R.)

Mutholland, Steven (Superior National Forest): [51] (see Peters, Gordon R.)

Muller, Jon (Southern Illinois)
[18] Historic and Mississippian Population Stability
Studies of prehistoric Mississippian and historic Native American population and population dynamics indicate the possibility that Mississippian and historic Southeastern populations were more alike in structure that is commonly supposed. Moreover, simple models of population structure suggest that the "decline" of Mississippian centers in the 14th century can be seen as a consequence of the nature of Mississippian biological and social reproduction. In general, the comparison of cases of "decline" are modeled by overpopulation, to the extent that simple, dynamic models can account for many observed changes in archaeologically known populations.

Muñoz, Arturo René (Texas-San Antonio) (see also Saul, Julie Mühler)
This paper presents the results of extensive excavations at the site of RB-11, a small non-elite rural residence located on the Programme for Belize property in northwestern Belize during the spring and summer of 1994. The work done at the site revealed evidence for occupation spanning the entire Classic period. The data are framed not only in terms of culture history, but also in terms of implications for settlement patterns and the federal model of Maya political organization.

Murphy, Harry (Center for American Archaeology)
[172] National Science Foundation Young Scholars' Contribution to Archeology
High school students participating in the National Science Foundation Young Scholars' program at the Center for American Archeology have made contributions to the understanding of our archeological past. With the guidance of professional archaeologists as mentors, students conducted research on an array of topics including geology, paleoethnobotany, zooarchaeology, lithic and ceramic technology, site structure and settlement patterns. This paper reviews selected research projects highlighting their contribution to the field.

Murphy, Larry E. and Daniel J. Lenihan (both, National Park Service)
[29] Historic Shipwrecks: A Study in State Sanctioned Antiquity Trafficking
Historic shipwrecks in U.S. waters comprise a major heritage resource base. This unique resource
spans the entire range of post-contact history in the New World and often represents international
patrimony. Treasure savers exploit legal loopholes and bureaucratic inertia to gain access to
artifacts of the sea in a manner that would be unthinkable in a land state.

Murray, Matthew L. (Harvard)
[27] Looking Beyond the Center: A Landscape Approach to the Late Iron Age Opidda
Research concerning Late Iron Age centers (opidda) is often focused on the interiors of these vast
fortified settlements. Models of the opida based on a distinct urban/rural dichotomy have
assumed the presence of densely populated rural hinterlands. Since 1991, a project of field and archival
research at Kelheim in southeastern Germany has sought to develop a landscape approach to the
study of one such center to explore these assumptions. In combination with an examination of
internal structure, this perspective helps to explain patterns discovered within the settlement and to
illuminate the evolution of the oppida.

Myers, Thomas P. (University of Nebraska State Museum)
[252] Missions and Population Disruption in the Peruvian Amazon, 1639-1850
Missions active in the Peruvian Amazon resulted in population reduction, forced migration,
mixing of populations, cultural simplification, and dependence upon European trade goods. These
events and processes are recorded in the writings of the missionaries and other early observers. They
should also be reflected in the archaeological record. Hypothesis of how these processes might be
reflected in the archaeological record are tested against archaeological evidence from the Franciscan
mission at Sarayacu. There is strong evidence for the mixture of populations (forced migration is an
inference) and for the mixing of indigenous cultures, but no evidence of population reduction or
cultural simplification.

Mystery, James E. (Minnesota Historical Society)
[831] A "Weighted" Methodology for Determining the Lithic Reduction Technologies at Six
Galena Chert Acquisition Sites in Fillmore County, Minnesota
Archaeological investigations were conducted on six early Holocene Galena chert acquisition sites
in Fillmore County, Minnesota from 1990 to 1992. An analysis of the lithic reduction sequence was
attempted based upon the differential morphological variations of flakes. Results indicate that these sites functioned primarily as a series of short duration middle stage lithic reduction
compl. Much of the actual acquisition (and presumably most of the early reduction) took place at
tag deposits in the ravines immediately adjacent to the sites. This paper holds great promise for
helping sort out the reduction sequence at other acquisition/reduction sites in the area.

Mystery, Susan M. T. and Erin H. Rimmer (both, Hamline)
[120] A Chronoecological Investigation of the Hypothesized Relationship Between the Clam
River Focus of Wisconsin and the Mille Lakes Aspect of Minnesota
In 1962 W. C. McKern hypothesized a close cultural relationship between three ancient cultures,
the Clam River Focus of the Effigy Mound culture from northwestern Wisconsin and the Mille Lacs
and Kabblo cultures of the Mille Lacs Aspect in northcentral Minnesota. This relationship was postulated
based on similarities of burial practices and ceramic assemblages. McKern's hypothesis was tested by
applying a biocultural approach, analyzing additional mortuary practice variables as well as
chronometric and numeric analysis of the associated human remains. Preliminary results question
 McKern's hypothesized close affinity between these cultures.

Narvaja, Testa (Santa Clara Pueblo)
[53] The Agricultural Tradition at Santa Clara Pueblo
Santa Clara Pueblo has been in existence for nearly 700 years. Throughout these years our ancestors
have defined an intimate relationship with the land and an understanding and appreciation of natural
resources. It has been but a mere 60 to 70 years that we no longer live as an agricultural people.
The present loss of skills, arts and crafts, and the growths of crops has been dramatic, and today there
are only few people involved in any agricultural activities. Our community's concern is to remember
our agricultural background since all our stories, myths, ceremonies and prayers stem from an
agricultural way of life.

Nash, Donna J. (Florida)
[73] Wari Domestic Architecture and Site Planning: A View From the Moquegua Drainage
This paper documents Wari domestic architecture on the southern periphery of Wari expansion, in
the Moquegua drainage, Peru. Maps and illustrations of a domestic site associated with Cerro Baul
are used to address construction sequence and site planning. Construction techniques are also
documented through oral photographs of the site. Site planning and domestic architecture exhibit
evidence of a form of dual social organization which is typical of later Andean society.

Nash, Stephen E. (Arizona)
[133] Archaeological Dendrochronology in Alaska: Results and Prospects
Archaeological dendrochronology experienced a renaissance of institutional and individual research
during the 1990s and early 1940s that has not been matched since. A significant participant in
this research was James Louis Giddings (1909-1964) who, from 1938 to 1942, continued his
field research along the Yukon and Kobuk Rivers in Alaska. The archaeological and living-tree
dendrochronological samples collected by Giddings have been reanalyzed and used to reconstruct
behavioral and environmental variability. The current research illustrates the potential utility of
archived collections for archaeological and dendrochronological research, as well as research into
the history of American archeology.

Nizman, Uri (University of Aarhus)
[128] Changes in the Archaeological Record and the Development from Tribe to State in
Denmark
The rich archaeological record of south Scandinavia gives a detailed picture of the culture history of
the first millennium A.D. There are, however, a number of conspicuous changes in the composition of the
record. These changes have been explained very differently. A more clear apprehension of their character is possible, provided that the different background of the various
archaeological research traditions is considered. I will survey sources about rural production, religion,
warfare, and social and political organization, and describe how their different rhythms of
change may correspond to different phases of development in the society that produced the record.

Nunez, Julio, and Jason Bass (both, California-Berkeley)
[79] The New Imperialists: Graduate Students as Specialists in Eastern European Archaeology
American archaeologists working in Europe have recently noted the traditionally imperialist nature
of Western projects abroad. Conscious or unconscious, these projects have imposed Western
ideologies and concepts of the past upon artifacts and local archaeologists alike. One way that
researchers have attempted to circumvent this problem is through specialization. Graduate students
in particular are focusing on specialized areas, typically overlooked by local archaeologists. While
this non-imperialist approach has proved politically effective, we believe it prevents any
meaningful dialogue between "us" and "them." It seems that our endeavors are no less imperialistic
than those of our predecessors; perhaps it is impossible to leave imperialism behind.

Neeley, James A. (Texas-Austin), S. Christopher Caron (Texas-Austin), Barbara M. Winsborough
(Winsborough Consulting, Francisca Ramirez Sorensen (Texas-Austin), and Salvatore Valastor, Jr. (Texas-Austin)
[82] A New Approach in Dating the Prehistoric "Fossilized" Canals in the Tehuacan Valley
of Southern Puebla, Mexico
A means has been developed to date the use of the "fossilized" irrigation canals of the Tehuacan
Valley. Microbial mats grew within the canals when in use and were preserved in laminated
tufrites that precipitated from the calcite-saturated spring waters. The mat material was decalcified
and the organic and radiocarbon dated. The method has been developed by the organic fraction, and the radiocarbon dating of the samples are described. The significance of the technique and its application to the archaeology of the Tehuacan Valley and Mesoamerica
in general are discussed briefly.

Neff, Hectar (Research Reactor-Missouri)
[123] Units in Chemistry-Based Ceramic Provenance Investigations
The main methodological challenge in chemistry-based ceramic provenance research is to devise reliable and valid methods for aligning units of geographic space with the units of the
multidimensional space defined by measured elemental concentrations. Methods advocated in this
paper depend on systematic raw material sampling and allowance for changes in composition during
and after manufacture. Groups or individual specimens are matched to a series of "knowns" (raw
materials) in order to define a provenance probability surface. Compositional changes during or after
manufacture can be factored into the analysis of knowledge by adjusting the compositions of the raw
materials.

[22] "(see Larzon, Antoniet)
[51] "(see Dene, Frederik, J.)
[94] "(see Catherer, Paul)

Netman, Fraser D. (Yale)
[123] Discussant

Nietel, Bill (Delaware)
[111] The Case of the Missing Outliers
The extent of the Chicano regional system has been mapped using the distribution of Chicano
outliers. Generally, the system is drawn as an oval with Chaco Canyon in its approximate center.

Nicholas, William E. (San Diego)
However, outliers are not evenly distributed throughout this area. While there are many to the north, west, and south of the canyon, there are only five to the east. This paper considers the reasons why few outliers have been located in the east and the implications this pattern has for interpretations of Anasazi organization and external relations.

Nelson, Ben A. (SUNY-Buffalo) [21] Doling La Quemada This paper discusses 40 radiocarbon determinations from the site of La Quemada, critically evaluating them in relation to their stratigraphic contexts and the sampling strategy that led to their collection. Also discussed are implications of the dates for various components of growth and political development on the northern Mesoamerican periphery, including the core dominance, peer-polity, structural underdevelopment, and autonomous growth models. [111] Discussant

Nelson, Chris
[91] Concept: Cultural Change

Nelson, D. Erle (Simon Fraser); [17] (see Chipipanale, Christopher)

Nelson, Keryn (Skidmore); [14] (see Brender, Susan J.)

Nelson, Leslie M. (Arizona State)
[39] How Are These Sites Different? Investigating Petroglyph and Site Variation in South Central Arizona Petroglyph sites in south central Arizona are located in a wide variety of locations. Although there are no basic petroglyph images considered to be typical of sites in this area, there is definable variation in the way these are executed. Characteristics of sites and individual elements in this area were analyzed using a GIS system and statistics. The purpose was to identify relationships between the location of the site in terms of geography, resource availability, site accessibility and residential patterns and the distribution of the variation in the apparently repeated petroglyphs.

Nelson, Margaret (SUNY-Buffalo); [48] Discussant; [92] (see Hegmon, Michelle)

Nelson, Norman B. (New Mexico State Land Office)
[42] Pueblo Blanco: Cultural Resources Protection Through Ecosystem Restoration Pueblo Blanco, a classic period (A.D. 1300–1525) Pueblo Indian ruin in the Galisteo Basin, was threatened by arroyo cutting. The New Mexico State Land Office, in cooperation with volunteers from various governmental agencies as well as members of the general public, has conducted water control structures in arroyos undercutting roadblocks and dissecting plazas. This poster session documents the application of low-cost permeable techniques to conserve and preserve an archaeological site and its surrounding ecosystem. This approach to ecosystem restoration provides long-term management options and efficient use of limited funds for cultural resources protection.

Nelson, Saun M. (Denver): [23] Discussant

Netterly, Patricia J. (Fundacion Von Humboldt)
[112] Hilltop and Riverside: Prehistoric Settlement Patterns in Ecuadorian Amazonia The opportunity to carry out a 123 km transect survey in Napo Province has provided new information on the settlement patterns found in the two principal geographic provinces: the riverine and interfleuve environments. The riverine province can now be defined to include those areas up the tributaries with access to the main stream, creating a band of river-related settlement some 15 km deep. Settlement pattern in the interfleuve zone indicates the potential for a large, but dispersed, population occupying and reoccupying smaller settlements. The new information recovered focuses on the relationship of resource distribution in the Western Amazon and of the rich man–poor man, riverine-interfluvial dichotomy.

Neusius, Sarah W. (Indiana University of Pennsylvania), Lynne P. Sullivan (New York State Museum), Phillip D. Neusius (Indiana University of Pennsylvania), and Claire M. Miller (Pennsylvania State)
[104] Fortified Village or Mortuary Encampment? Exploring the Function of the Ripley Site Models of cultural dynamics for southwestern New York depend heavily on the long-standing assumption that the region’s earthworks are defensive fortifications associated with late Prehistoric/Protohistoric villages. This assumption rests largely on analogy with the historic stockaded villages of various Iroquoian groups. Our reanalysis of the Ripley site, an earthwork on the Lake Erie bluffs, suggests that this assumption is not always warranted. Assembly data and spatial patterning indicate that mortuary ceremonialism was the primary activity at the site. Comparative studies of other earthwork sites are needed to confirm this interpretation and to be critical of constructing regional models.

Netzler, Mark A. (Laboratory of Traditional Technology); [85] (see Skibo, James M.)

Neusius, Philip D. (Indiana University of Pennsylvania); [104] (see Neusius, Sarah W.)

Nevill, Margaret (Iowa): [33] (see Whelan, Mary K.)

Nevell-Morris, Laura (Washington); [10] (see Carter, Barbara J.); [72] (see Dommel, Robert C.)

Newseum, L (Southern Illinois-Carbondale)
[115] Archaeobotany at Site PO-38 and an Emerging Picture of Prehistoric Subsistence on Puerto Rico Plant remains from excavations at PO-38 along the Cerrillos River, Puerto Rico, help illuminate prehistoric human adaptation on this island. With components corresponding to Cuevas and early Ostionoid occupations (ca. A.D. 500–1200), the deposits span the period when prehistoric agricultural systems from the Amazon and Lesser Antilles were introduced to this island. Plant remains from PO-38 include edible herbaceous taxa and fruit trees; at least two species may have existed in horticulture. Manioc production is inferred from food processing implements. The PO-38 data are summarized and discussed in view of other recent developments in Puerto Rican paleoethnobotany.

Newsmoe, Elizabeth A. (Wisconsin-Eau Claire)
[64] Welcoming the Katun: Stela A at Copan and the Final Traditions of the Cycle Stela A is pivotal in revealing the nature of the katun-ending rituals that centered upon Copan's Great Plaza. It is one of several stela located by the ruler 18-Rabbit-God K, which record a countdown of dates leading to 9.15.0.0.0. The monument's inscription concerns directional ceremonies in which the katun may have focused upon Temple 4, which stands nearby. Stela A tells the story of how the katun begins and the katun is portrayed as a period of ritual preparation for the new katun during its final 360 days, in which Temple 4 was the focus of community-wide rituals of world renewal.

N'Gahhblën, Sinãnd (California-Los Angeles)
[81] Church, Parish and Polity in Late Medieval Ireland: A Regional Research Strategy The twelfth century reform of the Irish church resulted in the establishment of a territorially organized hierarchy. The archbishops and bishops were established at the canonical level of the existing secular politics: the dioceses being coterminous with chieftains and chieftain confederacies, and the parishes reflecting the exsistence of subterritories within a chieftain. This paper critically examines a regional research strategy developed in order to analyze the spatial organization of the medieval church and to examine the relationships of church and politics in medieval Ireland.

Nicholas, Linda M. (Wisconsin-Madison)
[86] The Production and Exchange of Marine Shell Ornaments in Ancient Ejea An unusual abundance of marine shell ornaments and debris was recovered in a segment of the Classic period Ejea site during regional survey. Subsequent excavations in a domestic structure and associated craft middens confirmed the production of a variety of shell ornaments, using Pacific marine species. While some shell items were made for local use, the low percentage of ornaments (5%) relative to debris suggests that most production was for broader distribution. Shell working was not the only craft carried out by Ejea households, and some of the manufacturing techniques used on shell were also employed in other crafts.

[30] (see Feitman, Gary M.)

Nicholas, Deborah L. (Dartmouth) and Thomas H. Charlton (Iowa)
[38] The Akha Language Situation at Otumba: A Chronological Assessment The Aztec city-state of Otumba is the focus of long-term archaeological investigations. Analyses of surface and excavated ceramics and obsidian hydration dates from the capital, Otumba, indicate a dispersed Mazapan occupation (ca. A.D. 900–1200), a scattered Early Aztec (I) occupation (ca. A.D. 1300–1400), and an intense Late Aztec (II) occupation (ca. A.D. 1400–1550). In the paper we incorporate radiocarbon dates, currently being processed, from unexcavated deposits to refine the local Late Post-Classic chronology.

Nichols, Marilyn W.
[80] Integrated Resource Management
Nielson, Bjørne Henning (Thisted Museum)

[83] Smødegaard: A Tell-Like Iron Age Village in Thy, Denmark

From 1992–1994, Thisted Museum in Thy, Denmark, excavated a tell-like village at Smødegaard dating to the early Iron Age. This village type is common in the area, but here the exceptional use of chalk floors gave excellent conditions for bone preservation. Macrofossils in the form of seeds also were well preserved. As the village existed for 400 years (ca. 300 B.C.–100 A.D.), a complex stratigraphy was formed helping us to secure samples for tree ring dating as well as flotation samples. The well-dated material allows us to follow developments in use of land, domestic animals, and marine resources.

Nieves Zedillo, M. and Leon Lorenzo (both, Arizona)

[85] Land Use, Landmarks, and the Formation of Territories: An Example from the Puebloan Southwest

Archaeological terrirories traditionally implied bounded spaces wherein culturally homogeneous groups made a living. In the American Southwest, spatial distributions of traits such as ceramics, architecture, burials, and, more recently, data on empirical land use, have been used as indicators of territorial boundaries. However, the existence of territories so defined has been challenged in numerous modern Indian land claims. Drawing from archaeological and historic land use trajectories in the Puebloan Southwest, this paper addresses this challenge by evaluating the reliability of criteria for determining prehistoric boundaries, and attempts to reconstruct a history of territorial formation in the area.

Norris, Susan M. (Harvard)

[73] New Methods in Obsidian Hydration Dating: Results from Yautepec, Morelos, Mexico

Obsidian hydration dating has produced ambiguous data. We addressed this problem by hydrating glass in its ambient environment (vs. inducing hydration in the lab). We buried source obsidian, radiocarbon dated, and standardized glass at the site of excavation for one year. The project goals were to 1) examine the effect of micro environmental variation on hydration rates, 2) develop a hydration rate for obsidian in Yautepec considering factors besides temperature data, and 3) provide dates for archaeological obsidian. We measured the rims with a more precise, new technique called Electron Tunnelling Profiling, performed on a Nuclear Accelerator. Results indicate that micro environment may be a significant factor in the rate of hydration.

Norton, Mark R. (Tennessee Division of Archaeology): [87] (see Broster, John B.)

Novick, Lee (North Carolina Department of Transportation)

[129] Site Distributions and Survey Strategies in the Southern Interior Coastal Plain

Examination of site distributions and survey strategies has focused on the Eastern and Midwestern woodlands, the Desert West, and the Southern Piedmont. North Carolina’s Interior Coastal Plain exhibits the least relief of the state’s physiographic regions. Archaeological studies mirror the inland/lowland dichotomy reflected by soil formation and vegetation. Major river systems characterize the region’s topography with valleys, terraces, and uplands. Results of numerous survey projects are compared and range from judgmental strategies to environmentally stratified paired sampling units. The results illustrate similarly high site densities of one archaeological site per 11 acres. The region’s diverse set of archaeological sites range from the Paleoindian to Contact periods and functionally represent locations to villages. Historic sites temporally represent the Contact period, though the 20th century and functionally represent farmsteads and plantations to industrial sites. Over 600 sites distributed across 50 soil types are dominated by Norfolk sands loam (20 percent). Survey strategies and site distributions across soil types and topographic settings are synthesized.

Noyes, Peter T. (Navajo Nation Historic Preservation Department): [67] (see Anyon, Roger)

O’Brien, Christopher J. (Wisconsin)

[68] Cautionary Tales of the Crypt: Inferences from Prey Mortality in Ethnographic Context

Aspects of hunter choice and prey capture are frequently inferred from the age profiles of mammals in archaeological assemblages with little regard for the assumption underlying such age-based mortality models. Analysis of the age profiles for large mammal prey taken by Hadza foragers in Tanzania provides an opportunity to evaluate mortality models resulting from observed hunting strategies. Results indicate that 1) the method of determining significant differences in the predict the profile type of Hadza prey selection and kill capture methods are not accurately predicted with current mortality models; and 3) consideration for season of death and prey behavior is crucial for inferring human behavior from mortality data.

O’Brien, Michael J. (Missouri): [14] (see Cogswell, James M.); [74] Discussant

O’Gorman, Jodie (Wisconsin-Milwaukee)


The presence of hierarchies within Oneota social organization is explored through a gender-specific analysis of archaeology and other community levels. Various types of hierarchies and possible uses of inequality or Oneota economics are considered using data from the Trenман site in Long County, Georgia. As a residential scene, the site provides a unique opportunity to examine the ways in which these hierarchies may be reflected in the economy and the community structure. The distribution of resources and the organization of labor are analyzed to illustrate the implications of these hierarchies for the community organization.

Ostbee, George H. (Tulsa): [28] Discussant

Osburn, Dennis (California-Santa Barbara)

[53] Cemetery Survey Data and Cultural Continuity and Change in Nascas, Peru

Survey data collected on cemeteries in the Nasca drainage of Southern Peru were analyzed to see if such data could reveal patterns in time and/or space when considering cemeteries as separate sites. The best results were obtained when the cemetery locational patterns were analyzed with respect to habitation patterns, revealing a long association with ceremonial areas and rituals to human and social changes. Patterns of artifact types and tomb construction styles and materials suggested changes through time and space, but the multivariate context of the cemeteries could be clarified if combined with excavation data.

Osland, Robert N. (U.S. Geological Survey)

[87] Later Quaternary Changes in Relative Sea Level Adjacent to the Northeast Coast of Massachusetts

Radiocarbon dates from two submerged strandline features off Massachusetts provide limited control on a relative sea-level curve (RSL) for the western Gulf of Maine during the late Quaternary. The curves indicate a highstand of 10 ft. above +3 m at 14 ka B.P. and a lowstand of 20 ft. below +3 m at 12 ka B.P. Deep water in the near offshore indicates that palisade lines were never far from the present shoreline since the Paleozoic occupation adjacent to the Gulf of Maine.

Oliver, Joe (University College London)

[115] The Cerrillos Valley Projects, Puerto Rico: A Regional Perspective

The Cerrillos Valley data recovery projects conducted by the U.S. Army Corps of Engineers (1972–1979) have resulted in the most comprehensive archeological investigations to date in Puerto Rico. This paper integrates the information recovered into a single coherent overview of the prehistory of Cerrillos. The data are then reevaluated in relation to islandwide prehistoric processes. Three topics are highlighted: a) the process of expansion and colonization from coastal to intermediate habitation sites, b) the development of local ceremonial centers with structured precincts, and c) their relationship to the rise and decline of primary ceremonial centers in Taino (Ponce) and Caguana (Utuado).

Olson, Sandra L. (Carnegie Museum of Natural History), Victor Zalbert (Potomakvozsk Pedagogical Institute, Kazakhstan), and David Anthony (Hartwick)

[77] Botai, a Prehistoric Settlement of Horse Hunters in Kazakhstan

Botai, an Early Eneolithic settlement (archaeological sites 5500–4500 B.C.) of 150+ palisade houses in the steppes of north-central Kazakhstan, is the largest in the region prior to the Bronze Age. Research has centered around the question of why the economy of these indigenous hunters enabled them to adapt to harsh environmental conditions and maintain a substantial population in the village. Hunting strategies, food processing, migration and seasonality, housing, and the introduction of pastoralism are all examined. The Botai culture is compared and contrasted with the nomadic pastoralist Kazakhs of recent historical times.

Olsen, Kirsten A. and Lisa J. Lucero (both, California-Los Angeles)

[15] Control of Surplus Labor and the Distribution of Wealth and Power in Late Classic Maya Society

Surplus labor is used by elites to create monuments, public works, and wealth goods. The differences in the distribution of these labor products serve as evidence for different strategies to control and maintain their power. Monumental architecture and public works require large labor forces that are highly visible and provide centralized power and authority. The distribution of wealth goods created by smallscale, specialized labor forces define the broader political ties that elites must maintain to legitimize their power. We examine the products of surplus labor among the Late Classic Maya—namely monumental architecture and wealth goods—to illustrate how labor control serves to legitimize and maintain power.

O’Shea, John M. (Michigan): [104] (see Milner, Claire McPhee)
ABSTRACTS OF THE SAA 60th ANNUAL MEETING

Orrego C., Miguel (IDAEH, Guatemala): [73] (see Ford, Anabel)

Owen, Bruce (Programa Continuo): [99] War and Engineering, Ostenation, and Social Status in the Late Intermediate Osmore Drainage

From A.D. 1000 to 1350 in the Upper Osmore drainage, Chiribaya and Tumilaca people lived in unfortified sites, built modest canals to reclaim easily exploited farmland, and developed highly ornate material cultures and obvious social ranking in burials. From A.D. 1200 to 1535, Esquipula people lived in dense-walled hilltop towns with elaborate defenses, and built vast areas of agricultural terraces and ambitious canals in extremely rough terrain. Despite evidence of large coordinated engineering projects that suggest organized leadership, the Esquipula had a very plain material culture and minimal evidence of social differentiation in burials. What do these radically different social "styles" tell us about the forms, appearance, and reality of power and status?


Archaeologists commonly use simple counts of specimens as a measure of relative abundance for various styles of archaeological materials. Simple counts, however, are prone to error due to the differential size of fragments. One solution to this problem is to size sort specimens using a screen set and to multiply the number of fragments by the squared screen area and sum the products of the respective screens. This method gives a better idea of the "effective area," experimental and archaeological applications show that use of this method improves accuracy of quantitative ceramic analyses.

Oyuela-Caycedo, Augusto (Calgary): [127] Domestic and Ceremonial Life in North Andes Chiefdoms: Change and Continuity in the Sierra Nevada de Santa Marta

The objective of this paper is to analyze the changes and continuity of domestic and ceremonial life of the chiefdoms that occupied the northern face of the Sierra Nevada de Santa Marta. The analysis is done by using ethnoarchaeological and historical data from the present-day Kogi Indians, descendants of the Tairona chiefdoms (intensively studied by Gerardo Reinelt Delmotte), and by comparing archaeological settlement data from the Parque Tairona, the region of Guarne, the Upper Riosucia River drainage. This data allows for the hypothesis and reconstruction of some of the changes that took place in the Sierra Nevada de Santa Marta since the development of the complex Tairona chiefdoms.


Archaeological sites are subjected to natural and cultural alterations that have important consequences for the interpretations given to the site data. Archaeologists have therefore always attempted to recognize the actions that have shaped the pre-depositional environment of the sites. This is of paramount importance to archaeological studies undertaken for historic preservation compliance, where an accurate evaluation of a site's research potential (i.e., "significance") must be made in an efficient and timely manner. This paper briefly reviews types of site disturbance that can and should be recognized at an early stage in archaeological investigations to adequately "identify and evaluate historic properties" as required under U.S. federal regulations.


The model offered explores Maya Power relationships in power from the Copan royal dynasty toward nonroyal elites by combining 16th century Quiché organization and land tenure systems, which emphasize elite lineage land control, with classical supply and demand theory. Early in the Copan sequence, a small population placed little pressure on land supply and power derived from land control was relatively limited via ideological power. Power derived from land control increased as population fully colonized the valley and peaked when soil degradation decreased the supply of arable land. Elite households then became primary centers of economic and political power.

Palka, Joel (Vanderbilt): [64] Historical Archaeology of the Nineteenth-Century Lacandon Maya of Peten, Guatemala:

A Study of Cross-Cultural Interaction and Culture Change

The Lacandon Maya, who currently live in the jungle lowlands of Chiapas, Mexico, have been viewed as an isolated people that only recently experienced outside control and culture change. However, modern Lacandon society is not a relic of the past, but is the result of cross-cultural interaction and process. The historical archaeology of settlements in Peten, Guatemala, examines transformations in Lacandon culture during the 19th century. Due to sociopolitical and economic developments in Latin America at this time, the Lacandon Maya were affected by trade, missionaries, migrations, conflict, and depopulation.

Panfil, Maria (Pennsylvania State): [66] (see Hirth, Kenneth)

Parker, Kathryn (Great Lakes Ecosystems): [59] (see Simon, Mary)

Parker, Douglas R. (Colorado): [107] (see Welker, Edan)

Parkington, John (University of Cape Town): [39] Discussant; [60] Discussant

Persons, Jeffrey E. (Michigan), Elizabeth Brumfiel (Albion), and Mary Hodge (Houston-Clear Lake): [26] Are Aztec I Ceramics Epipaleo? The Implications of Early Radiocarbon Dates from Three Aztec I Deposits in the Basin of Mexico

Thirty-one radiocarbon dates from recent excavations at three deep stratified sites in the Basin of Mexico suggest that the Coyotlatelco, Mazapan, and Aztec I ceramic assemblages overlapped substantially in time in parts of the Basin. These dates also suggest that Coyotlatelco pottery may overlap with parts of the Late Classic Metepec phase in the southeastern Basin, while Aztec I, Aztec II, and Mazapan pottery are all to some degree contemporaneous in the northwestern Basin. There is, however, a need to reassess older arguments (Nogueira, Vaillant, Franco) about the chronological overlap between these Epipaleo and Early-Middle Postclassic ceramic phases.


[26] (see Evans, Susan Toby)

Patterson, Thomas C. (Temple): [63] Conceptual Differences Between Mexican and Peruvian Archaeology

This paper asks why interpretations of pre-Columbian history and site formation in Mexico and Peru are framed in different terms by archaeologists. Part of the differences are due to the empirical realities of the two civilizations. This paper explores how sociological considerations and theoretical orientations of archaeologists, as they interpreted these empirical realities, contributed to the construction of interpretative differences.

[125] Discussant

Paske, Timothy R. (Oklahoma): [59] Cahokian Political History as Punctuated Equilibrium

The history of Cahokian community development is punctuated by well-documented and sometimes dramatic shifts in demography, organization, and economy. These shifts include power consolidation, symbolic reorganization, relocation of residential areas, cessation of monument building, and loss of regional control. These are likely results of the prosecution of top-down political measures and bottom-up resistance to such measures. Unlike S. Gould's "punctuated equilibrium," Cahokian shifts reflect the negotiation of power between an elite and a resistant nonelite population, not a society evolving in unison.

Pavlak, L.A. (Toronto): [98] (see Hancock, R. G. V.)

Paynter, Robert (Massachusetts-Amherst): [102] Practicing Critical Archaeology: Problems and Methods

A key tenet of critical archaeology is that the study of the past should be conducted with an awareness of how our practices fit within present social relations with the goal of changing those relations in the future. This paper considers how to position a particular field site in the conduct of a critical archaeology. In particular, popular histories of Deerfield, Massachusetts are studied as they are used to develop themes to guide the critical studies of New England's past.

Peacock, Evan (U.S. Forest Service): [136] Testing the Efficacy of Shovel Test Screening on the Tombigbee National Forest, Mississippi

While shovel testing has received critical attention as a survey technique, the effects of screening have seldom been addressed in actual field situations. On the Tombigbee National Forest, several quarter-sections were surveyed, without screening, in 1984. These areas were resurveyed in 1993 with screening being employed. Overall site density was more than three times higher than originally recorded. As expected, small sites were underrepresented in the original survey, and site sizes were often underestimated. The results of the study suggest that screening should be a mandatory practice in shovel test surveys.
PEARSON, Deborah M. (Missouri) [32] Reconstructing Subsistence in the Lowland Tropics: A Case Study From the Jama River Valley, Manabi, Ecuador

Macroremains and phytolith data are integrated to reconstruct subsistence in the Jama River valley, Ecuador. As maize begins to increase in importance during the Mucuchíe II phase (A.D. 420–790), in the context of expansion of settlement from the river valley into the uplands, the valley is progressively deforested due to the combined influences of agricultural expansion and volcanic ashfall. A broad-based subsistence system characterized human to plant interrelations in the valley through prehistory.

PETERSEN, Lisbeth (Kulundborg og Omegns Museum) [117] Elaborated Mesolithic Fishing Technology—An Alternative and/or a Stepping-Stone to the Neolithic?

Stationary fishing structures from mesolithic and neolithic times have been excavated in Zealand, Denmark. It is a kind of passively operating fishing method which implies complex economical and social structures in mesolithic times. Some elaborated mesolithic technology and organization may be one of the reasons why the mesolithic population in northern Europe for 1000 years stood up to the introduction of agriculture from the Baltic cultures in central Europe, and thereby succeeded in an indigenous introduction of agriculture.

PELZEN, Andrew (Pennsylvania). [72] Controlled Experiments in the Production of Flake Attributes

This paper examines the use of controlled experiments to understand specific elements of flintknapping, and the relationship between flakes and cores that cannot be observed or controlled by human flintknappers. The advantage of controlled experiments is that they allow each element of flintknapping to be examined separately, and thus be understood in terms of those actions of the flintknapper which affect the flake produced. The experiments reported here are concerned with the effects of force and angle of blow used during flake production. The understanding of the forces of force and angle of blow has opened new avenues of research into the potential information preserved in the flake record.

Pendegast, David M. (Royal Ontario Museum) [88] Garbage

Despite the accumulation of a considerable body of data on refuse deposition in ancient Maya communities, the model of Classic-period garbage disposal is still one of rooting agglomerations of household waste surrounding residential platforms. This maddening scene can, in fact, be set aside as a result of investigations at Altun Ha and Lamanai, Belize. The supplanting of the model with one that fits the archaeological information has major implications regarding community sanitation, construction practices, dietary data derived from midden analysis, and the significance of refuse deposition for site structure and site dating for the identification of population peaks.

PENMAN, Shawn L., Ann F. Ramonofsky, Anita Steffen, and Steve Dominguez (all, New Mexico) [42] Surface Investigations of High-Low-Density Records in the Lower Chama Valley

The Chama Archaeological Project is conducting investigations of the late prehistoric/early historic artifact record in north central New Mexico. Our investigations focus on the surficial archaeological record of an area and time period where there has been little sustained research. Using state of the art technology we construct surface maps of high-density locations, some previously unmapped. To understand the spatial context of the high-density record we are mapping and doing in-field artifact recording of the low-density record. Here we present our initial spatial results in the form of maps of high-low-density locations.

PERDIGON, Sophia P. (Hunter) [101] Trade and Economy at a Medieval Fishing Village: The Site of Storravan, Northern Norway—A Zooarchaeological Perspective

Recent research has documented the evolution of a proto-urban center ca. A.D. 1200 at the site of Storravan near the center of the modern fishing industry in Lofoten. The center developed into an important node in the growing medieval codfish trade, funneling resources south to Bergen and ultimately to the Hanseatic trade network. The development of the site was a reflection of the transformation of a self-sufficient northern maritime society into a periphery of the evolving European core. This paper discusses general patterns and preliminary results of research currently underway in an effort to better understand the processes affecting this economic transition.

PETERKIN, Gail Larsen (Tulane) [60] Specialized Final Magdalenian Hunting Technology in Southwestern France

The statistical analysis of French Upper Paleolithic weapon armatures indicates that the Magdalenian was characterized by the preferential use of organic weapon armatures (sagais and harpoons) although in some cases bone-socketed microliths were inserted into ground-stone handles. During the Final Magdalenian, however, there was a brief return to traditional lithic projectile points (e.g., Azilian points, darts, Laugerie-Bassee points, Teyjat points, and Magdalenian shouldered points). This paper presents a sample of 50 complete lithic weapon armatures from 10 Southwestern France sites and examines the brief reappearance of specialized lithic weapon armatures in terms of environmental and behavioral variables.

PETERS, Gordon R. (USDA Forest Service), Susan Mulhall (Minnesota-Duluth), Steven Mulhall (Superior National Forest), and Grayson Larimer (Minnesota-Duluth) [51] Paleoindian Research in Northeastern Minnesota: The Land Between Complexes

Paleoindian materials have been recovered, mostly as isolated finds, throughout northeastern Minnesota for a considerable period of time. However, only during the past several years has any systematic research been conducted to determine age and distribution patterns. The paucity of early materials appears to be a result more of lack of survey than lack of material. In addition, bison from pollen cores suggest that a relatively large proportion of the area was free of glacial ice earlier than previously estimated. This paper will discuss this research within the framework of geomorphological and paleoenvironmental reconstruction.

Pfaffenberger, Bryan (Virginia); [124] Discussant

PHILLIPS, James L., and Lawrence H. Keeley (both, Illinois-Chicago) [65] Chatanika Ocracoke and Late Pleistocene—Early Holocene Hunter-Gatherer Behavior

This essay is concerned with a chains of episodes approach to lithic analysis in the Old World Paleolithic. Specifically, we use this approach, and edge-wear analysis, to understand life histories of artifacts and assemblages. We assume that the production of lithic material by hunter-gatherers is predicated on a series of decisions based on traditional methods, including the choice of raw material, reduction strategies, uses, and patterns of discard. Using examples from the Upper Pleistocene and Early Holocene of Europe and Southwestern Asia, we attempt how this approach is an important tool for understanding hunter-gatherer behavior in the past.

PICH, Paul R. (Missouri) [135] Expeditious Mound Shell-Tool Technology on the Northern Great Plains: Historical, Archaeological, and Taphonomic Considerations

Indigenous mussel shell-tool technology on the Northern Great Plains remains an understudied topic among archaeologists despite its recognition during the early twentieth century (cf. Will and Spinden 1906). Similarly, historical accounts left by European American explorers, scientists, and fur traders document expeditious shell-tool use by native groups such as the Yankton Dakota, Mandan, and Hidatsa. A context-driven archaeology for the 1990s, much like its cultural-historical and processual predecessors, integrates taphonomic considerations attendant to more fully examining the naid and human records on the Northern Great Plains.

PETERS, James (Ohio State); [70] (see Waters, Michael R.)

PETAK, Lynn M. [129] Charting Culture Change on the Body: European Objects in Munsee and Delaware Mortuary Contexts

In the Delaware Valley region, European objects are frequently found in early historic mortuary contexts, while they are relatively scarce in prehistoric features. Over the past two years, museum and private collections have been studied by the author. The results of this analysis suggest that the importance of these goods in mortuary contexts lies in their meaning as objects of personal ornamentation. Archaeological and ethnobiological evidence is used to trace how personal
ornamentation is elaborated in Munsee and Delaware mortuary contexts as both a public and a private symbol.

Fike-Taye, Anne (Vassar): [60] (see Berlondo de Quiros, Federico)

Pearsall, Elizabeth (Southern Methodist) and Deborah M. Kligmann (University of Buenos Aires)

[32] Archaeological Bifaces and the Limits of Experimental Reduction Models
Experimental bifacial reduction models are commonly used in the analyses of archaeological lithic assemblages. A single experimental model was applied to two archaeological case studies in southern and northeastern Argentina. The results obtained do not match those predicted by the model. As a result we discuss the utility of applying models that focus on end products rather than on manufacture rejects, debitage and site formation processes in archaeological assemblages.

Pinna, Minerva (Tulane)

[88] From this Life to the Next: Human Agency, Cultural Context and the Social Practice of Burial
In both history and archaeology, approaches to cultural encounters, and to the past in general, have been colored by structuralist and functionalist paradigms concerned with long term trends or societal processes at the expense of the role of the individual in mediating social forces. In this paper, I show that the role of the human agent in social action can be recovered from excavations and documents alike by looking up interpretations of Colonial period Maya burials from Tipu in connection with burial and funerary data from 15th through 17th century wills collected in Madrid and Seville.

Piperno, Dolores R. (Smithsonian Tropical Research Institute)

[116] Late Pliocene/Early Holocene Human Ecology of Central America
Recent evidence from palynological and archaeological studies indicates that Paleolcoid populations in the Central American tropics exploited a wide range of vegetational zones, from high-scrub and savanna-type environments to evergreen tropical forest, the latter of which they were actively modifying through fire and small-scale clearing. It follows that Paleolcoid subsistence was not characterized by large scale hunting and capture of big game animals, and that adjustments to the tropical forest biome took place during or very soon after the colonization of the region. This paper reviews the evidence pertinent to early human settlement and adaptation in the American tropics.

Pitblado, Bonnie L. (Arizona) and Robert H. Brunswig, Jr. (Northern Colorado)

[105] Late Paleolcoid Culture Dynamics and Environmental Change in the Central High Plains and Rocky Mountains
Emerging paleoenvironmental and archaeological evidence for Central High Plains and Rocky Mountain Late Paleolcoids appears to support that a minimum of two hypothetical models of human-environment/human-human interaction: 1) one involving a culture ecology-based dichotomy of mountain and plains populations, or 2) existence of a single, multiregional, seasonally migrating population utilizing separate ecologically adapted mountain-plain technological inventories in different seasons. Current data on Late Paleolcoid archaeology and associated ecozone-specific paleoecological reconstructions are examined for clues about these environmental dynamics from mid-Pleistocene times (ca. 8500 B.P.) to the traditional end of Paleolcoid times (c. 7500 B.P.). While it is evident that more data are needed for resolution of Late Paleolcoid culture-environment dynamics, a major restructuring of current conceptualizations of the culture historical division of Late Paleolcoid and Early Archaic period appears to be indicated.

Ploeger, Thomas C. (Wisconsin)

[98] Archæic/Woodland Mortuary Use of Native Copper as an Indication of Social Complexity and Subsistence Specialization in the Western Great Lakes
This paper examines changing social structure among prehistoric peoples in the Northern Great Lakes from 3000 B.C. to A.D. 1. The Archaic/Woodland transition is marked by a radical change in the production and use of Native Copper in mortuary contexts. This paper suggests that such changes are part of the result of both increased subsistence specialisation and hunter-gatherer social complexity. It focuses on a comparison of mortuary native copper furniture between the Oconto Site, WI (a Middle Archaic, Old Copper Complex cemetery site) and the Riverside Cemetery, MI (a multicomponent Old Copper/Red Ocher Complex cemetery and habitation site).

Plunket, Patrick, Gabriela Urutuela, and Helga Geovannini (all, Universidad de las Americas) (see Urutuela, Gabriela)

[66] The Settlements of Tépempa
The eruption that created an important area of the western slopes of the Popocatepetl volcano in the state of Puebla has preserved examples of Late Preclassic structures. Discussed are the variety and

function of the buildings and their associated features uncovered by the Tépempa Project.

Podgorny, Irina: [63] Discussion

Polkhan, Lenora (Iowa): [66] (see Sheehy, James J.)

Pollard, Gustavo (Universidad de la Plata)

[63] Current Archaeological in Argentina: Is There Any Alternative Paradigm?
In recent times, several authors have proposed that the traditional archaeological theories used by current authors need to be re-examined from a structuralist perspective. Most of the Argentinean archaeologists continue to employ the traditional archaeological theories, and the alternative paradigm is not yet widely accepted. This paper is a summary of the last three decades of Argentinean Archaeology in order to understand why there are not any alternative paradigms in the country.

Pollard, Helen Perlstein (Michigan State)

[21] The Transformation of Regional Elites in Central Mochean
During the period from A.D. 800-1521 central Mochean saw the emergence of multiple independent political centers and their subsequent incorporation and subordination within the Tescapana State. Since 1990, excavations have been conducted at Uriqui, located within the core of the Tescapana State. These have provided (1) the first archaeologically based chronology of the Epiclassic and Postclassic periods in the Lake Paucarco Basin, and (2) have allowed the definition of the material correlates of elite status during these periods. Finally, the Classic and Postclassic transitions to the emergence of the Tescapana State. This paper will present results to date of this work, illustrating the embeddedness of Mochean prehistory in the larger political and economic dynamics of Mesoamerica.

Pool, Michael D. (Texas)

[78] The Mogollon Early Pithouse Period Settlement System
Although some researchers consider the Early Mogollon to be sedentary village agriculturalists, there is a growing consensus that a mixed hunting/gathering-agricultural settlement system characterized at least the Early Pithouse Period. Using the ethnographic Western Apache settlement system as a model, this paper considers the form such a settlement system would take.

Pope, Elizabeth (Texas/Austin): [34] (see Stenner, Jeffrey)

Pope, Melody: [40] (see Court, Cheryl)

Potter, James M., and Mark Varney (both, Arizona State)

[78] Unpacking the Discard Equation Through Computer Simulation
Computer simulation techniques are employed to evaluate the effects of occupation duration and population densities on the relative frequencies of artifact types at sites. Cooking pot refuse from the Duckfoot Site is used to construct a model from which variables are systematically altered to assess how accurately discard equations predict occupation duration. The results of the study indicate that the most variable and least accurate estimates are generated by short, "few household" sites. However, estimates from the simulation are surprisingly comparable to what is predicted by using a discard equation that does not take into account many of the variables considered in the simulation.

Powell, Nena (South Carolina Institute of Archaeology and Anthropology)

[24] South Carolina Archaeology Week
Each year the South Carolina Archaeological Community meets in the state capital to promote the archaeological heritage of the state to the public. In addition to the main purpose of this event, the purpose is to promote the archaeological heritage of South Carolina to the public. The purpose of this event is to promote the archaeological heritage of South Carolina to the public. The purpose of this event is to promote the archaeological heritage of South Carolina to the public. The purpose of this event is to promote the archaeological heritage of South Carolina to the public. The purpose of this event is to promote the archaeological heritage of South Carolina to the public.
multimillion dollar funding—from CRM legislation of the 1980s. It was also one of the first to involve nonarchaeologists in archaeological decision making. Many years after the project's end, no one even mentions CRM's contributions to archaeological knowledge. Here, however, another dimension of the project is revealed: Guermon's articulation of archaeology with the larger world and how that articulation has affected the practice of archaeology today.

Powis, Terry G. (Trent) and Bobbi Holmam (New Mexico)

[37] Ancient Maya Round Structures at Cahal Pech, Belize: New Insights on the Complexity of Middle Formative Circular Platforms

The horizontal excavation of two circular platforms at the Toltek Group, Cahal Pech raises interesting questions about Middle Formative (650–350 B.C.) architectural techniques and practices, and their spatial contexts within patio/plaza groups. The location of burials and caches on these platforms may also shed new light on the ritual importance of mound structures in Formative Period Maya society. In addition to these special deposits, the location, size and elevation of the two round structures at the Toltek Group may represent the creation of social space with a particular focus on community/group identity.

Pozorski, Sheila (Texas-Pan American); [53] (see Pozorski, Thomas)

Pozorski, Thomas (Texas-Pan American); [89] (see Pozorski, Sheila)

Pozorski, Sheila, and Thomas Pozorski (both, Texas-Pan American)

[89] Paleoenvironment at Almejas, a Mid-Holocene Site in the Casma Valley, Peru

Near the mouth of the Casma Valley in Peru lies the Preclassic site of Almejas. In contrast to the dry bay and agricultural fields which currently characterize the site’s vicinity, faunal remains from Almejas document a nearby estuary environment when the site was occupied about 7,000 years ago. Warm-water fish and molluscs which dominate the faunal inventory at this early time are rare in later periods. These data have a bearing on both local paleoecological variation and more general issues of climatic change or stability prior to 3000 B.C.

Pozorski, Thomas, and Sheila Pozorski (both, Texas-Pan American)

[53] The Emergence of Secular Power in the Casma Valley, Peru

Early civilization in the Casma Valley was characterized by the emergence of secular power vested in ruling elite. By 1500 B.C., this elite had mobilized labor for construction of the largest mound structures extant in the New World. Such monumental structures functioned not only as large centralized storage facilities and temples, but also supported an elevated palace structure and adjacent buildings housed a support staff. Within this “palace” are both living quarters of the society’s leader and public areas where political affairs were conducted. Thus, this structure provided vital insights into both political leadership and political complexity some 3,500 years ago.

Prentiss, William C. (Frontier Archaeology); [28] (see Moulton, Raymond P.)

Prentiss, William C., and James M. Welch (both, Frontier Archaeology)

[103] Resource Intensification Without Sedentism: An Evolutionary Perspective on Prehistoric Change on the Northwestern Plains

The “Little Alithermal” climatic episode (approximately 1800 to 500 B.C.) on the Northwestern Plains is linked with an initial period of intense population influx and growth associated with high group mobility and plant resource intensification. Rapid population reduction by approximately 1000 B.C. in some areas may have resulted from severe competition and over-exploitation of sparse resources. Populations later increased with the renewed onset of moist conditions and immigration of new peoples. A selectionist perspective on these events is taken in order to avoid assumptions of continual population adaptedness, focusing instead on historical explanations of evolutionary success and failure.

Preucel, Robert (Harvard); [84] Discussant; [113] Discussant

Prezcano, Susan C. (SUNY-Binghamton) and Vincas P. Steponaitis (North Carolina-Chapel Hill)

[71] Cultural Developments in the Upper Susquehanna Drainage, A.D. 900-1300

Recent research on sites in the upper Susquehanna drainage has yielded new information about settlement and subsistence patterns during this critical period. One major change occurred about A.D. 1000 with the appearance of longhouses, large palisaded villages, and intensive agriculture based on maize and beans. Around A.D. 1200, villages moved from floodplain to hilltop locations and showed a greater reliance on transform storage. Finally, around A.D. 1300, population density declined as this region became a sparsely inhabited buffer zone between polities centered elsewhere.

Price, Heather (California-Berkeley) and Domingue Sicatini

[60] Vascularization and Site-Specific Contexts of Magdalenian Visual Imagery from the Languedoc-Roussillon of Southern France

Variability in the forms and distribution of Magdalenian visual imagery (cave wall and portable art) is detailed and placed in 15 site-specific contexts in the Languedoc-Roussillon. This little known region is employed to test current models of art as the product of adaptive behavior on intra- and interregional scales. The goal is to better understand the significance of small scale variation in what is commonly thought of as one of the "hallowmark" behaviors of hunter-gatherers in late Pleistocene western Europe.

Price, T. Douglas (Wisconsin-Madison); [84] Discussant

Prine, Elizabeth (California-Berkeley)

[79] Mining the Past: Current Research Trends in Archaeology

Legislation limiting access to minerals and antiquities was enacted by the US federal government in 1966. This paper shows that parallels in the 1906 laws affect/reflect the values of "extractive" archaeological research over "productive" research. Evidence for this is derived from a study of Abstracts International, NSF Grants and Awards, and American Antiquity. Based on these reports, research projects are ranked into categories ranging from primarily "extractive" to primarily "productive": excavation, survey and noninvasive fieldwork, museum studies and analyses, and delayed or museum analyses. The paper closes with the implications of these findings for archaeology in light of the 1994 Annual Meeting's Ethics Panel recommendations.

Prior, Christine, Elizabeth J. Lawler, and Kyle Moffitt (all, California-Riverside)

[43] Radiocarbon Ages of Great Basin Wood Charcoal: Avoiding Errors Due to Unwarranted Assumptions About Stable Isotopes

Can you use radiocarbon dating on wood charcoal from the Great Basin? Only if you have accurately determined the δ13C (stable carbon isotope ratio). A common assumption about archaeological charcoal is that the δ13C value is -25%. Because many desert shrubs use the C3 or CAM photosynthetic pathway, actual values of Great Basin wood charcoal may range as low as -11%. We tested 76 samples from Mojave Desert wood that were reported to be preferred by the Southern Paiute for fuel and construction materials. We will present δ13C values for these woods and discuss their potential effects on the calculation of radiocarbon ages.

Purdue, James R. (Illinois State Museum); [135] (see Chambers, Karen E.)

Purser, Margaret (Sonoma State)

[125] Nineteenth-Century Logging in Pacific Guatemala

Research at a 19th-century sawmill site at Finca Caramelo, a coffee plantation on the Pacific coastal plain of Guatemala, explores the impact of emerging economic and technological exploitation of this region in the context of an expanding Pacific economy. The boom-bust cycles of the 19th-century Pacific were driven by the increasing ability to extract primary resources as diversified agricultural products, building materials, and redistribute them on an international scale. The Finca Caramelo project suggests some comparative frameworks for assessing patterns in material culture and landscape that marked this expansion of industrial capitalism around the Pacific.

Pyburn, E. Anne (Indiana)

[37] "Orientalizing" the Maya

Research on the ancient Maya has dramatically altered perspectives popular during the colonial period when early researchers laid the foundations of archaeology as a discipline. No longer do archaeologists expect to find evidence of vacant ceremonial centers supported exclusively by extensive agriculture in the Maya Lowlands. Both ethnohistorical and archaeological data have indicated a change in this, but interpretations continue to support a model of the ancient Maya as mysterious inhabitants of a world of gods, politics, religion and trade that was "not like ours." This paper considers current trends in Maya studies that partake of the western intellectual tradition of "orientalism."

[123] Discussant

[64] (see Cook, Patricia)

[90] (see Douglass, John G.)

Quattrini, Dale W. (Pittsburgh)

[37] Verticality and Social Complexity: What Does the Archaeological Record Say?

Using archaeological data collected from four Formative-period (ca. 1000-AD) 1 households in
the Valle de la Plata, Colombia, the often used theory of intracommunity economic interdependence is encouraged or enforced by a high degree of altitudinal based environmental variation tightly packed into small horizontal distances ("verticality") is tested as an important factor in stimulating the development of complex social and political organization. Subsistence evidence (phytoliths, pollen, and carbonized macrobotanical remains) and cultural material enable us to say whether or to what extent verticality characterized the subsistence economy of the period.

Rafferty, Janet (Mississippi State) [18] Investigating Habitation Intensity at a Mississippian Mound Group Owl Creek Mounds in northeast Mississippi contain five mounds constructed during the Early Mississippian period. At least three of the mounds served as platforms for structures, but few artifacts have been collected from the surface of the 4 ha site. Data from systematic shovel testing, soil testing for available and total phosphates, microartifact analysis, and artifact density in mound fill indicate that there was little habitation activity at the site. Comparison with other ceremonial centers shows Owl Creek to occupy one end of a scale measuring variability in habitation intensity, even among vacant ceremonial centers.

Rager, Hal B. (Desert Research Institute, Reno) [43] GIS and the Yucca Mountain Project Archaeological Studies Program In 1993, the Quaternary Sciences Center at DRI began developing a Geographic Information System as part of the Yucca Mountain Project Archaeological Studies Program. Used initially for rapid retrieval of site location information and previous survey area data by project personnel, it is being tested as an analytical and modeling tool in archaeological research. Several domains appropriate for GIS analysis are part of the project’s research design, including settlement pattern change through time, and relationships between plant resources, toolstone, water source distribution and artifact distribution. GIS analysis of these domains in the research design is presented.

Rahimi, Duw (Royal Ontario Museum) [95] Neolithic Ceramics in Wadi Ziqlab, Jordan Recent excavations in Wadi Ziqlab, Jordan, reveal a range of ceramic assemblages of the Late Neolithic. Analysis of petrofabric, technology and morphology in these assemblages defines ceramic change over time, and contributes to the understanding of human activity at the site and the cultural history of the region. Examination of body sherds as well as traditional diagnostics allows complete description of the assemblages, and provides data for discussion of locality of production and the extent of exchange.

Ramensky, Ann F. (New Mexico) [123] The Illusion of Time The construction of chronologies depends on the measurement of time. Yet, temporal measurement and chronological construction are independent research endeavors. Measuring time depends on such technical considerations as type and age of material, or available instrumentation. Chronologies, however, are measurement devices constructed for the investigation and resolution of archaeological problems. Here, I focus on chronologies as archaeological research tools, stressing that because time is a continuous and infinitely divisible variable, there are no "natural," discoverable chronologies. Chronological units are more or less successful in the context of the research for which they were designed.

[42] (see Pennan, Shawn L.) [123] (see Steffen, Anastasia)

Ranere, Anthony J., and Patricia Hansell (both, Temple) [34] Modeling Agricultural Expansion in the Humid Tropics of Panama: A Geographic Information Systems (GIS) Approach The paleobotanical record from Panama indicates that burning of forsets for swidden agriculture was already underway in the ninth millennium B.P. A pattern of increased population, elevated deforestation and soil erosion persisted for the next 6,000 years and eventually provoked a dramatic reorientation of the subsistence/settlement focus towards lowland river alluvia. In this paper we use GIS to model the expansion of agricultural populations in Central Panama and the affect of their activities on the landscape. We provide a preliminary test of the model based on probabilistic settlement data collected from part of that region.

Rapp, Rip (Minnesota) [98] The Determination of Sources of North American Artifact Copper Using Trace-Element Patterns Using instrumental neutron activation analysis, our research group has analyzed over 1,000 native copper samples from more than 50 geologic deposits in the United States and Canada. With this database and employing multivariate discrimination techniques, we are able to source the copper in many North American copper artifacts with a high degree of probability. The details of the data base, generic procedures and problems, and specific examples of copper artifact sourcing are presented.

Ratto, Norma (University of Buenos Aires) [22] (see Larrea, José Luis)

Raymond, J. Scott (Calgary) [127] The Beginnings of Sedentism in Northwestern South America This paper compares and evaluates the archaeological evidence of sedentary life among the early Formative lowland societies of Ecuador, Colombia, and Panama. Although there are still significant points of incomparability among the data sets, recent regional surveys, site settlement studies, paleobotanical and archaeofaunal reports, and human skeletal paleodietary research now make it possible to compare the early indications of sedentism in the three countries. Sedentary behavior will be examined from both social and economic perspectives. Common patterns—and apparent as recently as a decade ago—can be discerned; however, with the rapidly expanding base of knowledge about lowland human ecology, generalizations are being tempered to make it more probable with time.

Reanier, Richard E. (Reanier & Associates) [61] Obsidian Hydration Dating: The Alaskan Experience After more than three decades of experimentation, obsidian hydration dating remains a promising but not means routine dating method for arctic archaeologists. The 1970s saw limited success in constructing radiocarbon-calibrated hydration rates. In the 1980s, thermal cells were first used to measure EHT, and activation energies derived from induced hydration were used to develop hydration rates, but erratic results pointed to hydration rate measurement error and the influence of forest fire as causes. Recent research suggests that within-source activation energy variability, and the limits on radiocarbon measurement imposed by optical microscopy may limit the usefulness of hydration dates in arctic environments.

Redder, Albert J. [9] Small Game Hunting in the Paleoindian Components at Horn Shelter No. 2, Texas This presentation will show the overwhelming amount and diversity of small game animals used in the Paleoindian levels at Horn Shelter No. 2, Bosque County, Texas. Most of this evidence is found in and around small fire hearths.

Redding, Richard (Michigan) [109] A Piece of the Pleistocene: Early Domestic Animals as Insurance Applying Wright’s concept of adaptive topographies to the origin of food production suggests that two types of selective pressures must have been operating. One acted to depress the fitness of hunting-gathering: the second acted to raise the fitness of intermediate substitute behaviors. The main source of plants/animals was favored as insurance against resource failure this would have acted to raise the fitness valley between hunting-gathering and food production. Epipaleolithic levels from Epipaleolithic–early Neolithic sites in Turkey, Egypt and China are examined to assess the role of early domesticates in insuring subsistence security.

[84] (see Rosenberg, Michael)

Redman, Charles L. (Arizona State); [109] (see Watson, Patry Jo)

Reed, David M. (Pennsylvania State) [71] Maya Diets at Late Classic Copan New paleodietary inferences are presented for the ancient Maya at Copan, Honduras. Stable carbon and nitrogen isotope values from human and fauna skeletons date to the Common phase (A.D. 700–1250) have been assayed. Intrapopulation differences are examined by grouping the results by divisions in social status, sex, and age at death. Within the Copan polity differences between main and subgroups are evident. The average diet of adult men and women differs. Elites had more varied diets than commoners. The mean results for the adults equal -9.2% for carbon and 7.5% for nitrogen.

Reed, Judy (National Park Service) [19] The Face of the Looter The National Park Service has had a small group of investigators focused full time on prosecuting cultural resource violators for the past four years. About one-quarter of the 200 cases opened for investigation have travelled through the complete legal web of adjudication. These cases and
interviews with peppers,ackers, and collectors have provided a data base from which we can better understand, and therefore address, the social and attitudinal perspectives of looting behavior.

Reed, Paul F., and Nathaniel Todra (both, Navajo Nation Archaeology Department) [67] The Navajo Road Project: Archaeological Data Recovery Within a 100-Foot Right-of-Way Significant Anasazi remains, including the Cove Anasazi Community, have been documented along the N33 road right-of-way (ROW) during work on the Cove-Red Valley Archaeological Project. Because archaeological mitigation is restricted to a 100-foot-wide ROW, however, the majority of significant Anasazi remains will not be investigated. Although a narrow ROW apparently provides for greater protection of resources, impacts from construction will extend beyond the ROW. We explore different approaches relating to the investigation and protection of significant Anasazi remains present along the N33 road and discuss these vis-à-vis limitations of ROW-based excavations.

Reese-Taylor, Kathryn (Texas-Austin); [94] (see Michum, Beverly A.); [94] (see Liss, Ken) [94] New Interpretations of the Structure 6 Complex at Cerros, Belize New excavations at Cerros have revealed a large altar stone with carvings associated with Structure 6, a truncated platform. Eight superstructures are located atop the platform and are situated in the cardinal and intercardinal directions: a plan identical to the North Acropolis at Tikal. The largest superstructure has yielded remnants of masks and a cache of six jade diadem jewels, and recent excavations have recovered a flower element from a small building in the front, center of the platform. Together the altar stone, the iconographic elements, and the arrangement of the structures make a statement about the function of the complex during the Late Preclassic.

Reichel, Beth A. (Emory); [136] (see Hunter, Andrea A.) [85] Dynamics of Pueblo Architecture Extensive survey and intensive excavation in the Greenhopper and Q Ranch regions of east-central Arizona permit a full description of architectural changes from small pueblos of up to 20 rooms to large, aggregated pueblo communities of 500 rooms. Factors responsible for changes in construction techniques, in partitioning space, in allocating activities, and in community layout plan are discussed.

Reilly, F. Kent (Southwest Texas State); [64] (see Garber, Jim) [92] Investigation of Puuc Chronology: The Xáltoc Archaeological Project The small site of Xáltoc near Uxmal has been chosen for the investigation of architectural, settlement and ceramic aspects of the Puuc chronology based on excavation data. Detailed analysis of the entire settlement and excavation mainly in the palace area have revealed a long sequence of construction activity including evidence of building continuity reaching from the Classic into the Postclassic Period. A remarkable change from high quality masonry to a very simple type of buildings took place in late times. The evidence suggests that dramatic changes occurred in this period but the site was not abandoned.

Reinhard, Karl J. (Nebraska); [100] (see Brettan, Barrett J.) [100] The Creation of Identity: The Hinsdale and Anna Williams House The Hinsdale and Anna Williams House in Deerfield, Massachusetts, presents a facade of almost perfect Federal styling with an interior approximating rural high style. The Williamses, in their 1816-1820 remodeling of the old Hinsdale house, used contemporary styling with rather startling aberrations. This paper will use documentary, archaeological, and architectural data to explore the Williamses' ambivalence regarding the social and economic conditions of western Massachusetts in the early industrial period.

Reeds, Elizabeth J. (Georgia) [89] Environmental Change at Ostracite Camp: The Vertebrate Faunal Evidence Vertebrate remains from the coastal Ostracite site of Ostracite Camp (4550-3850 B.C.) suggest the marine environment has changed since the site was occupied. At other preceramic coastal sites vertebrates are primarily fishes typical of the warm-temperature zone predominant today; however, the Ostracite collection includes a large number of warm-tropical or estuarine species. This suggests a warm embayment was present near the site in the past, although today the nearest

such embayment is 400 km north of the site. It seems likely that coastal waters were warmer in the past than they are today. [38] Participant

Rhode, David (Desert Research Institute, Reno) [61] Thermal Variation and Obsidian Hydration Rates Since the rate of obsidian hydration depends on temperature, and since the thermal environment experienced by artifacts varies considerably even over small spatial scales, it should be expected that hydration measurements from an artifact collection will also show significant variability. Differences in thermal regimes within a small area may easily result in differences in short term hydration rates on the order of 10%. Whether these rate differences hold over longer periods depends on the stability of the small scale thermal regime. Simulation modelling and empirical measurements are used to assess long-term hydration rate variability at Yucca Mountain, southern Nevada. [43] (see Hooper, Lisa M.)

Rich, Michelle E. (Cerrillos Cooperative Archaeological Development Project) and Elizabeth Muennich [94] Investigation of Early Classic Ritual Behavior at Cerro Negro through Ceramic Analysis Prior archaeological research at Cerros, Belize, has established the occurrence of dedicatory and termination rituals involving the Late Preclassic monumental architecture. Recent data may be suggestive of similar ritual activity during the Early Classic period. Through the examination of ceramic evidence obtained from Structure 4 during the 1993 and 1994 field seasons, this paper explores the possibilities of continuous ritual behavior at Cerros.

Richardson, James B. [89] Mangroves of the Peruvian North Coast: Climate and Cultural Adaptations in the Holocene There has been dramatic change in climate on the Peruvian north coast from the Late Pleistocene (14,000 B.P.) through the Middle Holocene (5,000 B.P.). In the Early and Middle Holocene, the north coast extended from the Socora Desert to Tumbes was fringed by a mangrove environment, as was the Santa Elena Peninsula of Ecuador. This paper will discuss the implications of Holocene climate change and the disappearance of mangrove resources on Preclassic-settlement subsistence strategies of this region.

Richardson, James B. [109] Modeling Subsurfaced Temperature and its Effect on Obsidian Hydration at Pot Creek Pueblo A field study from Pot Creek Pueblo in northern New Mexico indicates that obsidian hydration dates may contain significant errors when hydration rate constants are extrapolated to depth-specific effective hydration temperatures (EHTs). This problem is most likely to occur when the amplitude of the annual surface temperature range exceeds 2-3°C. Based on the large number of tree-ring dates for Pot Creek Pueblo, artifact burial histories have been modeled to account for a 3°C change in EHT with depth. Only 57% of the hydration age estimates are within the expected range, suggesting that sources of error in obsidian hydration dating are still poorly constrained.

Riehl, Christina B. (SUNY-Albany) [14] Cultural Interaction During the Carpenter Brook Phase This poster will discuss cultural interaction during the Carpenter Brook phase (A.D. 1000-1100) in the upper Susquehanna River Valley drainage. A series of ceramic assemblages will be analyzed, using ceramic attribute analysis and trace element analysis, to determine with whom early Owasco groups interacted, the extent of such interactions during the Carpenter Brook phase, and the significance of such interactions for understanding prehistoric behavior in the region. Comparisons with contemporaneous Owasco sites located outside of the Upper Susquehanna River Valley will be discussed to further understand cultural interaction during this time period.

Rigby, Charles R. (Arizona); [85] (see Reid, J. Jefferson) [13] Middles and the Middle: Cultivars and Cultivation in the Mid South and Middle Mississippian Regions of Eastern North America During and Before the Middle Woodland Period Evidence for the maize in the Middle Mississippian Valley of eastern North America in the centuries bracketing the common era force examination of the time of introduction of specific races of maize and the development and extension of maize cultivation. Sears's offers initial maize introduction from the site during Early Woodland with later introduction of maize from the Southwest, while Smith offers unitary southwestern introduction after indigenous domestication supporting an increasingly sedentary population and a ranked society.
Evidence from mid-continent suggests that both models are incomplete. Introduction of maize before the Hopewell Interaction Sphere seems likely, but maize disappears in the Middle Mississippi Region until the development of Emergent Mississippian. Maize is grown from Middle Woodland times through Late Woodland in the mid-South.

Rindos, David (University of Western Australia): [22] Discussant

Rindan, Robert V. (Wright State) [104] Hilltop Earthworks and the Archaeology of Functional Ambiguity During the Middle Woodland period, earthwork enclosures were constructed at both river valley and hilltop locations in southern Ohio. Since the early nineteenth century, both have acquired their share of archaeological investigations. While the riverine sites have been routinely interpreted as ceremonial, hilltop sites have been variously viewed as defensive, ceremonial, or both, largely on locational and morphological grounds. Results from recent excavations at the Pollock Works as well as other hilltop enclosures are illustrated in the real problems that exist in pinning a functional label on these sites.

Rivera, Mario A. (see also Rivera, Daniel E.) [49] The Azapa Sequence Within the South Central Andes: A Revision of Dauelsberg’s Contributions Percy Dauelsberg’s main accomplishments with respect to the Archaeology of northern Chile began in the 1960s when he proposed the first and most comprehensive ceramic sequence for the area. Thirty years later, new research, mostly following Dauelsberg’s initiative, is contributing to shaping a master sequence that is being used as a main reference for all the south-central Andes.

Rohrb, John (Michigan) [76] Tracing Social Change with Skeletal Markers in Prehistoric Peninsular Italy Skeletal biology provides many insights into what life was like in the past. This paper summarizes original and published data on skeletal indicators of social indicators of social interest in central and southern Italian populations from the Neolithic through the Iron Age. Biological phenomena reviewed include: cranial and postcranial trauma and violence, pathologies, dental health and diet, enamel hypoplasia and childhood stress, and metric and volumetric indicators of activity. A number of trends in these indicators can be related to prehistoric gender roles, economic and social changes and the rise of complex urban societies in Italy.

Robert, Michael E. (Timelines, Inc.) [108] Reaffirming the Promise As the construct of public archaeology developed into what we today call conservation or compliance archaeology, a promise was made and left unfulfilled. It is important to keep that promise or risk becoming irrelevant. The promise was to involve the public and to “give orientation and direction to the archaeological studies being undertaken.” This paper explores the history of this development, its consequences, and recommends changes that will reaffirm the promise.

Robertson, Ian G. (Arizona State) [47] Thematic Mapping of Empirical Bayesian Parameter Estimates at Tehotihuacan, Mexico The map presented by the Teotihuacan Mapping Project makes many traditional approaches to spatial analysis unnecessary or impossible. A GIS integrating a wide variety of spatial, artifactual, and architectural information from Teotihuacan has recently been created, and is providing a platform for new and highly informative types of analysis. This paper concentrates on ways in which thematic mapping functions are being combined with methods of empirical Bayesian parameter estimation, in order to provide better and more reliable inferences about spatial patterning within the ancient city.

Robichaux, Hubert R. [13] Settlement Survey in the Peripheral Zones of the La Milpa and Dos Hombres Sites in NW Belize Mapping and excavation in the peripheral zones of the La Milpa and Dos Hombres sites in Northwestern Belize has provided evidence on the nature of ancient settlement there. The data suggest that population densities were high in the Late Classic Period. Siting seems to be based upon facilitation of agriculture.
proposes that two-way voyaging linked distant archipelagoes in early periods of East Polynesian prehistory, creating a regional homeland sustained by interaction. It is further argued that a later decline in voyaging led to the increasing isolation of individual islands, and that this divergence of cultures descended from a single ancestral tradition. This hypothesis is examined in light of recent archaeological field work in the Marquesas Islands and geochemical evidence for the interisland transportation of raw materials and finished artifacts.

Rollesdon, Gary O. (Peabody Museum)
[84] Ritual and Social Structure at Neolithic 'Ain Ghazal
Eight excavation seasons at 'Ain Ghazal have produced an extensive range of information that relates to ritual, religion, architecture, and, by inference, social organization for more than 10,000 years of continuous occupation at the settlement (9300-7000 B.C., uncal). Clay figurines and lime plaster statuary, postmortem treatment, and architecture suggest a three-tiered socio-religious hierarchy for the late 10th and 9th millennia B.P. That may have been associated with corporate kinship organization. In the 8th millennium aceramic and ceramic Neolithic, this pattern altered dramatically, indicating cultural adaptations that might be attributable to a degraded environmental setting.

[95] Discussant

Rollins, Harold B. (Pittsburgh), Gregory Ayres (Pittsburgh), and Daniel Sandweiss (Maine)
Thermally anomalous molluscan assemblages (TAMAs) have been historically responsible for fluctuation in fisheries resources along the coast of South America. Cross-latitudinal coasts appear particularly susceptible to such resource changes. The model posed by Fletcher et al. (1991) for Palau and their explanations, climate, and sea level appears applicable to many other cross-latitudinal coasts. An increase in latitudinal thermal gradient triggers intensification of the current, which results in small-scale lowering of sea level and displacement of thermally restricted species. These effects may vary in temporal scale from decades to millennia, and may be synergistic with other controls of sea level.

Rondeau, Michael F. (Rostov Archaeological)
[28] Technology as Context for Obsidian Hydration Studies
Anomalous hydration band width readings have plagued interpretive endeavors and called into question the general utility of obsidian hydration as a method of establishing relative chronology. Recent technological advances indicate that certain kinds of artifacts can be explained. New interpretations of hydration and hydration analyses are recognized. It is argued that some unexplained results follow from a failure to establish context and, therefore, appropriate controls for sample selection.

Root, Matthew J. (Washington State)
[28] Production for Exchange at the Knife River Flint Quarries, North Dakota
A methodological problem in debitage analysis is determining the origin and composition of mixed assemblages. I use multiple linear regression to estimate the technological composition of debitage assemblages from the Flint (32DU475A), a workshop in the Knife River flint (KRF) quarry area, North Dakota. Multiple regressions were calibrated using replicates of KRF tool manufacture. Estimates of the technological composition of debitage assemblages allow estimation of the number of tools manufactured. Results suggest that tool production was most efficient during the late Paleoindian and Late Archaic periods, and that pan-time specialist tinknappers made tools for exchange during those times. There is no evidence of production for exchange during the Early and Middle Archaic periods.

[70] (see William, Jerry D.)

Ross, John J. (Pittsburgh)
[73] King Kong Meets the Stratified Random Sample: Sampling Settlement in a Jungle Environment
Locating randomly selected data collection units in the field can be a difficult task. This is especially true in settlement studies that cover many square kilometers. This presentation describes the techniques used by the La Milpa Archaeological Project in implementing a stratified random survey program in a densely forested and topographically challenging area of northwest Honduras, Central America. Fieldwork design also had to take into consideration the impact of archaeological fieldwork on a sensitive natural area as well as the concerns of botanists, biologists, and other specialists not involved in archaeological research.

[52] (see Tourtellot, Gair)
from sites being investigated south of the Rio Napo in Ecuador are hampered due to the often marginal preservation of even ceramic material in the moist or wet tropical forest. The original surfaces of many sherds are heavily damaged, rendering popularly diagnostic attributes such as mode of technological variability—including paste classes and building techniques—as well as accurate recognition of vessel forms, seem more likely to help us define the boundaries of prehistoric ceramic provinces there.

Roth, Barbara J. (Oregon State)
[126] Looking for Change in All the Wrong Places: Emerging Sedentism in the Southern Southwest
Numerous semi-sedentary Late Archaic villages have been documented in southern Arizona within the last decade. These villages are located adjacent to permanent water sources and arable land. All sites have evidence of cultivators, suggesting that agriculture was an important aspect of emerging sedentism. Most researchers working in this area have attempted to explain these changes in adaptation using data from Late Archaic sites. I argue that these changes cannot be explained by examining villages where the changes have already occurred. Middle Archaic sites may provide more pertinent data on the process and reasons for settling down.

Roux, Valentine (CNRS-ERA 28), Blainde Bril (EHIES, Paris), and Gilles Dietrich (INSEP, Paris)
[124] Skills Involved in Stone Bead Knapping: An Approach to Socio-Cultural Actors from the Indus
In order to interpret technological choices in relationship with the symbolic system in which it takes place, one should be able to define objects not only in terms of technical and physical parameters, but also in terms of motor and cognitive skills. The study of skills requires an actualist situation and a methodology such as the one developed by psychology. The case study here presented relates to stone bead knapping in Khambrat (India). Skills are studied using ethnomodelling and conducted on the Archaic Indus complex from the Indus Valley, enabling us to differentiate stone beads in terms of knappers’ specialization and intrinsic symbolic value.

Roveland, Blythe (Massachusetts-Amherst)
[50] In the Eye of the Beholder: Changing Views of Hambachian Variability on the Northern German Plain
In this paper, I assess the criteria by which archaeologists, past and present, have identified, measured, and given meaning to interregional variability of a particular time and place. I investigate the Hambachian, the oldest late-glacial cultural complex on the northern German plains, which was first identified in the 1930s. Since then archaeologists have sought to understand the lifeways of these Late Pleistocene hunter-gatherers. Through a critical history of this research, I explore the factors that may have influenced the recognition and explanation of variation between northern German Hambachian sites. Those factors include changing research priorities, methods, and assumptions about hunter-gatherers.

Rowen, Irwin (North Carolina State)
[131] Mien, Mean, and Meaning: Limits of Conventional Typology in Phytolith Analysis
Conventional typology, based on convenient reduction to simplified “typical” forms, currently dominates phytolith classification and may ignore real variation. Far less success has been achieved in the development of phytolith typologies at the species level. Visual tests, at both high and much higher magnification, have revealed basic perceptual, methodological, and mathematical errors resulting in false types used in the interpretation of archaeological phytolith assemblages. Successful identification of maize phytoliths in the archaeological record requires new approaches to visual identification and classification of phytoliths at the species level.

Rowe, Marvin W., and Marian Hyman (both, Texas A & M)
[17] Chemical Studies of Pictographs
We present a progress report on our chemical studies on pictographs. The direct radiocarbon dates obtained in recent years will be discussed with emphasis on the newer measurements. Our attempts to utilize polymerase chain reaction and phylogenetic analysis of DNA from ancient Pecos River style pictographs from Texas will be given, with a brief discussion of how we are trying to narrow the findings from order Artiodactyla to species designation. Mention of scanning electron microscopy studies of the microstratigraphy will also be made.

Rowlett, Ralph M. (Missouri-Columbia)
[119] Hypothesis Testing by Structural Analysis of Iron Age Bog Burials
Structural analysis of social and cultural elements can be regarded as a useful heuristic device, but has also raised doubts about the interpretations reported in the society of culture studied or in the mind of the observer, perhaps reflecting even the physio-anatomical structure of the human brain. During the past decade it has been realized that some La Tene Celts, at least the Insular ones, like the Germanic-speaking peoples of the North European Lowland area, culture, made occasional dispositions of executed individuals in bogs. Questions have arisen as to which cultural group instituted this practice. Structural analysis reveals in which culture the practice is the most patterned, integrated and deeply rooted, thus indicating the most likely origin for the burial rite.

Rue, David (Archaeological and Historical Consultants, Inc.) and Nicholas Dunham (Cincinnati)
[52] Preliminary Paleopathological Results from a Core from Laguna Tamarindo, Peten, Guatemala
A core was extracted from near shore in a small lake near the Maya sites of Dos Pilas, Tamarindo, Punta de Chemnitz, and Aguateca as part of the multidisciplinary studies of Vanderbilt University’s Petexbatun Regional Archaeological Project. An excellent suite of radiocarbon dates was obtained. The resulting date for human materials from 220-230 cm = 9200+110 B.P. An AMS date of 660+60 B.P. was obtained from a wood fragment found at 180 cm. The span of dates between and above the referenced dates are consistent. The data is the first information on pollen zonation and Maya land utilization in the region.

Ross, Louis (Missouri); [14] [see Cogswell, James M.]
Ryan, Jack Edwin (Southern Illinois-Carbondale)
[131] Recovery of Identifiable Phytoliths from Groundstone Artifacts and Human Dentition using Scanning Electron Microscopy
It has been demonstrated that silica phytoliths can be recovered in archaeological contexts, and more specifically from in archaeological ground stone implements such as flint hoes. Additionnally, it has also been demonstrated that silica phytoliths can be recovered from fossil mammal and extant mammalian dentition. I propose that silica phytoliths can be photograhically recovered using scanning electron microscope techniques. As a result of our study, these silica phytoliths appear to be relatively bound to the surface of the artifacts and to the calculus of the human dentition. Current research and methodology has yet to reach its full potential; however, this approach to the analysis should increase the rigor of the behavioral and cultural ecological inferences made from phytolith analysis.

Sacchetti, Dominique: [60] [see Price, Heather]
Sackett, James (UCLA): [62] Discussant
Sanchez, Karen E. (CSU-Northridge)
Drawing upon recent ethnoarchaeological fieldwork among Wardaman-speaking Aborigines in northern Australia, this paper first contrasts indigenous concepts of labor and surplus labor with those Western academic labor concepts frequently found in ethnoarchaeological analyses of complex, stratified social groups. Next, indigenous labor concepts are evaluated for their actual and potential viability in the archaeological record. Finally, the paper concludes with a general discussion of the heuristic value of Western academic labor concepts for Fourth World hunter-gatherer studies.

Saidel, Benjamin A. (Harvard)
[19] Pastoralism in the Early Bronze Age: The View from Har Nafta 396
Excavations at the site of Har Nafta 396, in the Negev desert, Israel, contributed new information on the lifeways of pastoral peoples. Analysis of the ceramics and lattices suggest that this occupation was occupied during Early Bronze I/II and Early Bronze III. Artifacts, faunal and phytolith studies have been conducted to determine seasonality and patterns of movement. The information derived from this excavation can be integrated with similar sites in the arid zones of the southern Levant and Sinai to provide a better understanding of the populations residing in these regions.

Salland, Sylvia, and Wilson Valerio (both, Museo Nacional de Costa Rica)
[90] 1. The Industries of the Region to Granada, Pacific Nicaragua (A.D. 300–1550)
This paper discusses the results of the analysis of ground and chipped-stone artifacts recovered in stratigraphic excavations of the Ayala site, Pacific Nicaragua. Most of the artifacts were made of local chert and basalt, while obsidian artifacts were made of imported materials from sources in
Honduras, Guatemala and Central Mexico. The assemblages suggest that some specialized activities were carried out at the site, owing to the prevalence of certain classes of artifacts. Comparisons are established with contemporaneous lithic industries of other regions of Lower Central America, especially of Costa Rica and Panama.

Salomon, Teresa (Universidad de las Américas): [66] (see Ruduaela, Gabrielo)

Salomon, Patrick (Wisconsin-Madison): [113] (see Steffan, Amy F.)

Saltzer, Robert J. (Bethlehem)
Cult shrines ("temples," "sepulchres") are described in the 16th century travelers' accounts for the chieftains of the southeastern United States. Prehistoric examples are certainly present in North America but these have not been described in a standardized way. Ritual shrines—one from the Early Bronze Age in Crete and one from post-Hopewell to Emergent Mississippian times in the upper midwestern United States—are compared in an attempt to refine and reinforce systematics that will facilitate the identification of other examples and to amplify our understanding of such ritual spaces.

Sammons, Dorothy (Idaho State): [116] (see Lothse, E. S.)

Samson, C. Garth (Southern Methodist)
[12] Pastoralist and Hunter-Gatherer Space Sharing Strategies in the Upper Karoo, South Africa
Later Stone Age pastoralist groups penetrated the upper Karoo semi-desert region of central South Africa at by at least 1350 B.P. Resilient hunter-gatherers acquired ceramics and livestock, but retained their own lithic tradition. Spatial analysis suggests that the two communities moved seasonally between the same waterholes, but maintained schedules that kept them from having to share the same water points.

Sanon, Ross
[12] Women at the End of the Earth
Later in the first millennium A.D., Picts lived in the northernmost part of Scotland. Considered mysterious today, contemporaries also saw them as unusual, attributing an important role to women. While the position of women in calculation of royal succession has interested scholars, only recently has it been recognized that women may be better represented on the most mysterious of Pictish artifacts—their hieroglyphic tombstones—than has been suspected. They probably appear graphically without recognizing them as women and may represent one-fifth of the names recorded on stones. Apparently women had much greater power than in contemporary European societies.

Sanchez, Juita L.J. (California-Los Angeles): [92] (see Shaffer, Brian S.)

Sandness, Karin L. (Smithsonian)
[99] Dietary Analysis of Prehistoric Middle Osmore Drainage Populations of Southern Peru Using Stable Isotopes (80C and 80N)
Data from carbon and nitrogen isotope values obtained from human bone samples from sites in the Osmore Drainage of southern Peru (ca. A.D. 50 to 1300) indicate both spatial and temporal variability in diet. Specimens from the middle Moquegua Valley are, in general, more negative in both carbon and nitrogen than those of the lower coastal Osmore Valley. Through time, the Moquegua samples tend to have more positive 80C values and less positive 80N values, suggesting increased maize consumption, with particular emphasis on this food source during the Middle Horizon Period (A.D. 700-900). Geographic location and shifts in socioeconomic control are discussed relative to the isotopic data.

Sandweiss, Daniel H. (Maine)
[89] Climatic Change or Geographic Variation in the Mid-Holocene of Northern Peru?
Archaeological and Paleoclimatic Evidence
The Ostra Site is located near the Santa River on the Peruvian north coast (ca. 9° S latitude) and dates to the mid-Holocene (ca. 6250 to 5400 B.P.). Vertebrate and invertebrate faunal assemblages from the Ostra Site and an associated palaeoecological record are dominated by species now found in warm, coastal environments. Other mid-Holocene sites south of 5° S latitude also have warm-tropical faunas. Models in account for the anomalous fauna of mid-Holocene northern Peru have stressed either regional climate change or local geographic alterations. These models are compared and evaluated in the context of other sources of climate data, and their differential implications for regional prehistory are considered.

Sandoz, Harold B.

Sanor, Mario
[63] Historical Region and Regional Archaeological Programs
The historical region is one of the key concepts in social archaeology to organize and understand empirical data. The awareness that the archaeologists are dealing with sites that represent a former living system of historical and social relations that developed in a given prehistoric culture contributes to a better definition of the analytic and/or interpretive lines of historical development, manifested through the modes of life, modes of work, and the daily context of life. Theory is particularly important whenever possible and relevant to further the study of daily life contexts as well as domestic or territorial space and the social activity of individual groups.

Sassaman, Kenneth E. (South Carolina Institute of Archaeology and Anthropology)
[103] Social Controls over Resource Expansion and Contraction
Alliance building and exchange are first-line defenses against subsistence stress among hunter-gatherers, in these same areas of social action lie the seeds of economic intensification. The dialectics of simultaneously overcoming and creating subsistence stress is exemplified by Late Archaic societies of the American Southeast. The expanded use of shellfish, aquatic reptiles, and perhaps anadromous fish coincides with increased group integration, larger coesident group size, and subsistence production. Diminished use of these resources after 3500 B.P. is traced to variation in the commitment of local groups to extralocal social obligations and the influence this had on group disintegration.

Sather, Dean T. (Museum of Archeology, Kansas)
[83] Raw Material Utilization in the Northeastern Plains: A View from the Canning Site
Analysis of the lithic assemblage recovered from the Canning Site (21NR9) was performed in order to observe and quantify patterned morphological variability in the utilization of differing raw materials. The site is located in a lithic-poor environment and it is suggested that all lithic materials had been transported to the site by its occupants. Individual raw material types may have been selected for manufacture and use as specific technological items. In this analysis, emphasis was placed on identifying the impact the spatial distribution and flaking quality of each raw material had on its utilization within the organization of technology.

Sauser, Roger (Army Corps of Engineers): [129] (see Saunders, Joe)


Saul, Julie Mather (Lucas County Coroner's Office), Frank P. Saul (Lucas County Coroner's Office), and Arturo René Muñoz (Texas-San Antonio)
[13] Osteological Analysis of Burials from a Small, Non-Echelle Rural Site (RB-11, Program for Belize)
Excavations in 1994 at RB-11 resulted in the removal of 10 burials, the largest mortuary population thus far recovered from the Program for Belize study area. Nine were primary and flexed, eight with head South, one cyst burial with head North. A secondary burial was found in a wall. Field evaluations indicated the presence of four adult males, one adult female with pregnancy, "scars" and Romero dental decorations F9 (modified), and one adult possible female with Romero dental decorations B4. Dental decay and attrition were common. Laboratory analysis should provide more specific information about age, sex, health status, and cultural modifications.

Saunders, Joe (Northeast Louisiana), Thurman Allen (Soil Conservation Service), Rolfe Mandel, and Roger Saunders (Army Corps of Engineers)
Watson Brake (1600175) is an 11-mound and ridge complex in northeastern Louisiana which dates to the Middle Archaic (> 5000 B.P.). The mound and ridges form a circle with a diameter of 280 m. The largest mound is over 7 m high. Test excavations in two ridges and one mound produced six charcoal samples which date between cal. 5300 and 5900 B.P. Postoensiphen in ridge and mound fill supports the inferred antiquity of the site. Watson Brake artifact types are similar to those recovered from Frenchman's Bend (160U259), a five-mound Middle Archaic complex in northeast Louisiana.

Searle, Vernon L. (School of American Research), Fred Valdez, Jr. (Texas-Austin), and Nicholas P. Dunning (Cincinnati)
At least two possible paths exist in the development of early agriculturally based civilizations: 1)
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accreting harvesting of resources and 2) expansive exploitation of supplies. Considerable internal variation within a culture was present through time and between geographical zones, though early civilizations generally oriented to one of the two resource extraction and processing tracts. In the case of the lowland Maya, punctuated periods of accelerated agrarian growth and sophisticated water management occurred. Nevertheless, an accreting orientation to growth is generally postulated by our research in northwestern Belize.

Scarlett, Tithothy (Nebraska-Reno): [43] (see Van Worner, Heather)

Scotty, C. Margerit (North Carolina-Chapel Hill)

[85] Native American Farming Practices in the Late Prehistoric Southeast

We routinely describe the Mississippian peoples of southeastern North America as maize agriculturists. While this characterization is reasonable, it is also quite vague. It glosses over the diversity of agricultural practices poured by different groups and the complexity of farming practices employed by individuals and small agricultural societies. This paper draws on archaeological and ethnohistorical evidence to survey the cropping strategies (e.g., scale of production, diversity of crops, labor and storage practices) of Mississippian peoples and their historic descendants.

Scotto, Meira Cristina (Musco Etnografico, University of Buenos Aires): [40] (see Gero, Joan M.)

Schafer, David K. (New York State Museum): [90] (see Casco, Lisa M.)

Schamel, Kathleen M. (CEHIP Incorporated)

[80] From Taos to Breckenridge: Planning a Successful Conference

Organization of the Save the Past for the Future Conference for the Society of American Archaeology was a challenge. The planning committee envisioned gathering 70 and 100 participants. We hired experts to reevaluate the 1989 Taos conference and prepare an action plan for the next decade. As word spread about the conference, over 170 individuals had confirmed their participation. Event the end of the fiscal year causing last minute cancellations, the Breckenridge Save the Past for the Future conference was a resounding success. This presentation will highlight the conference planning, background, and events leading up to the conference.

Selchele, Laura L. (Wyoming)

[135] Burial Archaeology and Research on the Northwestern Plains

Human skeletal remains from Wyoming and Montana have been studied for over 50 years. Although not a primary research interest of many archaeologists, the information gained through the study of mortuary sites has revealed patterns that are consistent with the archaeological record. All known burials from these states were evaluated. Skeletal remains are attributed to every cultural period, although samples from earlier periods are smaller; and dating methods are inconsistent. The data reveal decreasing life spans through time and changes in burial contexts as well as possible evidence for increasing conflict as people migrated to and from the Plains.

Schepert, Lynne (Cincinnati): [119] (see Miller-Antonio, Sara)

Schiavon, Vincent W. (SUNY-Buffalo)

[21] The Organization and Timing of Prehispanic Mining in the Chalchihuites Area of Northwest Mexico

The Chalchihuites area of northwest Mexico is known for the site of Alta Vista and its mining complex aimed at minerals such as cinnabar, weathered chert, and semiprecious stones. Many scholars associate Chalchihuites mining with Toltec influence. In contrast, this paper presents evidence that places mining in the Eciplicpatic period (ca. A.D. 650-900). Scale and organization of mining are also discussed. While the scale of mining is quite large, its organizational aspects are relatively moderate. It is suggested that local elites were responsible for the management of mining and its products were primarily destined for exchange within northwest Mexico.

Schiffer, Michael B. (Arizona)

[62] Social Groups and Social Boundaries: A Behavioral Perspective

Discussions of social groups and social boundaries in the archaeological literature often confute ethnic and social perspectives. The result is endemic confusion over the meaning of terms and a consequent lack of a generally useful theory. This paper argues the necessity of building concepts and principles, pertaining to social groups and social boundaries, on the basis of behavioral phenomena. Some trial formulations are offered.

[85] Discussant

Schlanger, Sarah H. (Museum of New Mexico)

[23] Men’s Houses and Women’s Places: Gender and Power Relations During the Anasazi Flooded Pueblo Transition During the transformation of the Ancestral Puebloan Southwest from a gathering and hunting base to an agricultural economy, informally organized clusters of earth-sheltered pithouses are replaced by more formally organized and constructed historic communities. This is the pithouse to pueblo transition. One aspect of this transition is the transformation of the domestic pithouse into a man’s house and ceremonial chamber—a relatively well known. Changes in women’s places are less well understood. This research considers the transition to pueblo in terms of the changing roles of men and women in prehistoric southwest society.

Schnader, Matthew (City of Albuquerque)

[79] Conserving the Puebloan Petroglyph Imagery: From Other Forms of Artistic Expression For many prehistoric systems, there are few material correlates to rock art images. Prehistoric petroglyphs in the Middle Rio Grande Valley are an exception. Petroglyph sites are found near pueblo villages. Kivas at large villages have been found with wall murals. Comparisons of murals and petroglyphs to wall murals reveal that some images are found in both media but many are not. Petroglyphs add dimensions of color and detail. Certain designs on painted pottery may be found in petroglyphs. Contemporary art forms such as dances and kachina dolls are also compared to rock art images. Other sources are contemporary pottery, baskets, and blankets; mythology and oral traditions should also be utilized.

Schneller, Kent A. (USDA-Forest Service) (see also Koacee, Andre L.)

[132] Heritage Management: A Frontier

As this nation undergoes unprecedented change, the reorganization of behaviors and attitudes toward environment, "correctness," the fields of history, archaeology, ethnography, and related disciplines are undergoing significant change. A need to manage these resources holistically is being met with the emergence of "heritage management." This higher level of work is being done in the field to benefit the human agenda will be the focus of this paper. The heritage management need not be an archaeologist or historian by specialty. In fact a new kind of manager with a background in planning and the sciences mixed with the history-related industries is being sought. This paper will discuss how the traditional fields of archaeology and history can contribute to managing the cultural heritage.

Schober, Theresa M., and Stanley H. Ambrose (both, Illinois-Urbana/Champaign)

[18] Reinvestigation of Maize Consumption in West-Central Illinois: The Evidence for Carbonate and Collagen Stable carbon isotope analysis of bone collagen has been widely employed to investigate the presence of maize in prehistoric midwestern diets. Recent experimental work demonstrates that carbon isotope ratios of the protein matrix while bone carbonate reflects that of the whole diet without discrimination. This study re-investigates maize use in west-central Illinois with a sample of 89 adults from Late Archaic through Mississippian periods. Stable carbon isotope ratios of collagen and carbonate are examined to provide a more accurate estimate of maize consumption, particularly in Middle and Late Woodland times.
Schröder, Sissel (Pennsylvania State)

[120] Ancient Landscapes: Late Prehistoric Settlement of the American Bottom
Large and small sites that were part of a complex society in the Mississippi Valley near Cahokia were surveyed recently. The distribution of late prehistoric sites is strongly affected by local settlement settings, principally wetlands, and by regional sociopolitical conditions, particularly proximity to mound centers. Existing site data and new fieldwork at 71 sites clarify controversies about the organizational structure of Cahokia-area society during a several hundred year period.

Schröder, Susan (Loyola-Chicago)

[26] Creating Kingdoms in Postclassic Mexico: The Importance of Phillophilosophical Ethnographic Interpretations
Critical to filling lacunae in the archaeological record about the formation and development of indigenous polities in postclassic Mexico are the ethnohistoric records set down by the Nahua through Nahui, Chimalhuiztli, 17th-century Nahua historian, copied and transcribed ancient pictographic manuscripts, collected oral histories from town elders, organized the data, and then set it all down in a Nahua-language account that traces from A.D. 670 to the 1630s. Ethnological analysis and historical data produce evidence that allow the reconstruction of the organization and operation of Nahui or by, or kingdoms, over an extensive period of time.

Schuldenrein, Joseph (Geochronology Research Associates)

[187] "I Am Old Enough Yet?" Growth Phases and Identity in Cultural Resources Management
The CRM profession continues to grapple with some of the most basic questions of mission, purpose, client interaction, public involvement, and ultimately identity. Compared to many other industries, we appear to be lost in the woods. While we are a young profession, in the fast-paced Information Age, we need to mature quickly. It is imperative that leaders in CRM establish objectives and feel comfortable in their missions to preserve cultural resources for future generations. Only then will we be able to transmit a sense of professionalism and self-worth that will force our clients to consider our "product" to be every bit as valid and significant as more classic commodities.

Schuldenrein, Joseph (Geoarchaeology Research Associates), Dennis B. Blanton (William and Mary) and William Childress

[87] Pleistocene-Holocene Contexts in Piedmont Virginia: An Example from Site 44PY152
A Paleolithic/Early Archaic horizon has been identified in deep alluvial sediments at Site 44PY152 on the Roanoke River in the Virginia Piedmont. Early components are unknown from these contexts in Virginia and they are rarely identified elsewhere in the Piedmont. Limited excavations at the site have documented a depositional history marked by varying rates of alluviation and contrasting soil formation processes. With the results of particle size, chemical, and radiocarbon analyses of the stratigraphic columns, the development of the deposit is charted with particular reference to the correlation with early human occupation. These results are compared with others from Piedmont settings to model the potential for similar contexts and assess regionwide patterns.

Schwarcz, Henry P. (McMaster) and Christine White (Western Ontario)

[12] The Grasshopper and the Ant: Did Nubians Store Their Grain?
Carbon isotopes in hair of mummies from Nubia, Sudan show a longitudinal variation in δ13C that suggests that most of the range is expected for consumption of field crops (wheat, etc.) to pure summer crops (millet). The amplitude of the shift suggests that these people were eating whatever was available when it was available, and not using much out-of-season stored food. Implications to the presence of food storage structures and terracotta bands in huts will be discussed.

Scott, Barbara G. (Minnesota)

[101] Integrating the Sources from Norse Orkney: Sites, Sagas, and Speculations

Scott, Elizabeth M. (Zoological Research) and Donald P. Hedman

[125] Expansion and Imperialism in the Rio Verde Valley of Mexico
This paper addresses several theoretical and methodological issues confronted by archaeologists of colonialism and imperialism in Latin America. These include the varying degree of local peoples' resistance to that influence, 2) the degree of cultural and demographic continuity through time, and 3) archaeological evidence of the complexity that characterized imperial, colonial, and post-colonial societies. This paper draws upon archaeological examples and historical evidence of the degrees of Hispanic and Spanish influence in the Rio Verde Valley of northeastern Mexico to discuss similarities and differences within preconquest and postconquest Latin America.

Sebastian, Lynne (Museum of New Mexico)

[24] An ongoing research project in the Pupe-Pomata region along the southwest edge of Lake Titicaca, Peru, has revealed evidence for substantial Tiwanaku influence. The region stands just outside the Tiwanaku sphere of influence, and as such, is critical for understanding the nature of the Tiwanaku to settle peripherally. Recent reconstructions, survey, and large-scale excavations enable us to further understand the Tiwanaku movement into and intensive control over this zone.

Seifert, Donna J. (John Milner Associates)

[74] Participant

Senkema, Holmes A. (Iowa)

[110] (see Falk, Carl)

Senior, Louis M. (Arizona)

[58] "When a Word is Worth a Thousand Pictures": Textual Evidence for Ancient Mesoamerican Ceramic Production Contexts
Highly detailed ceramic records render Mesoamerican nearly unique among other early states worldwide. Unfortunately, these sources do not frequently provide the data that can be partially incorporated into archaeological analyses of production; however, context, intensity and scale of Mesoamerican ceramic production, as well as elite interests in production efficiency and standardization, could be discovered for some time periods (especially Umay). Strict adherence to Earle's (1981) and Costin (1991) definition of "attached specialization" may be too restrictive to account for the administrative variability evident in textual accounts of Mesoamerican production; moreover, the attached context of production may be archaeologically invisible without resource to textual information.

[58] (see Kuczat, Eric E.)

Sewall, Robin L. (California-Berkeley)

[79] "A Foremostman's and the Presentation of Egypt's Past
Going back to the ancient Greeks, groups have appropriated Egypt's past for their own uses. Recently, sociologists, psychologists, educators and others have come together with an afrocentric focus to alter the presentation of Egypt's past to primary and secondary schools. Their work includes the use of scientifically invalid concepts such as "race", the crouting of outdated materials, and thus such as hyperdifferential and the selective use of archaeological evidence. Archaeologists must become more involved in the presentation of the past to the general public, particularly school-age children, in order to provide a more balanced view of the past.

Shaffer, Harry D. (Texas A & M)

[92] Classic Mimbres Architectural Variability: Households, Lineage Residences, and Roofed Space
Intensive excavations at the NAV Run, SW New Mexico, have documented Classic Mimbres architectural variability and roofed space use. This paper defines and discusses variability in Classic Mimbres households, lineage residences, and their incremental growth through generations, and residential /ceremonial rooms. Households include at least one room with a formal lined hearth. Clustered households formed room blocks and lineages that included communal granaries, storage
rooms, and civic/ceremonial rooms. Incremental growth of the lineage residences reveal dynamic changes in the uses of roofed space. Mortuary patterns support the proposed household and room use models. [9] (see Hester, Thomas R.)

Sheaffer, Brian S. (North Texas) [30] (see Gardner, Karen M.)

Sheaffer, Brian S. (North Texas) and Julia L. J. Sanchez (California Los Angeles)

[92] Mimbres Zooarchaeology: Reflecting Mimbres Culture and Ecology

The Mimbres-Mogollon of the American Southwest relied on crop complexes for much of their diet. Although we are using social hunting and trapping. Permanent settlement resulted in the resource depression of larger animal taxa that could not withstand sustained human predation. This resulted in the predation of smaller animals that could withstand intensive predation. The extent to which smaller animals were incorporated into the prehistoric food regime is closely tied to the capacity of the environment to support viable populations of larger taxa that could withstand the additional human predation.

Shane, Orrin C. (Science Museum of Minnesota)

[83] The Grand Meadow Quarry: A Major Lithic Procurement Site in Mower County, Minnesota

The Grand Meadow Quarry, located in Mower County, southeastern Minnesota, is a recently identified source of Rapid Chert, a grey, high quality, cryptocrystalline rock occurring in nodular form within the Rapid Member of the Cedar Valley Formation, a middle Devonian limestone. Rapid Chert was an important regional lithic resource used by Indian people for at least 9,000 years. Recent archaeological surveys and remote sensing have identified quarrying by open-pit mining as the major mode of extraction. Nineteen hectares of pristine open-pit mines, now preserved by the Archaeological Conservancy, remain intact within 50 hectares of former open-pit mining.

Shaw, Leslie C.

[50] The Importance of Dog in Ritual Feasting in the Maya Preclassic

Ritual feasting is proposed as an important aspect of emerging complex societies because of its role in building and solidifying unequal social obligations. The use of domestic dogs as a food source for feasting during the Maya Preclassic Period will be explored. I present faunal data from sites in Belize and Guatemala to support my argument that the dog, one of the few domesticated animals available to the Maya, provided a meat source that could be managed and stored for ritual events. In light of this, I also consider the significance of dog remains in Preclassic burials and caches.

Silva, Daniel E., and Mario A. Rivera (both, Brown)

[40] Restricted Percolation and Reticulate Irrigation, A Pseudo-Oasis Niche

Concerning Ramaditas, in the Atacama Desert. The motive for occupation was ready access to copper deposits, but the extreme aridity made human settlement problematic. A dendritic pattern canal system was not a viable alternative in the local terrain. A possible alternative of the Wankarana complex of Bolivia, Ramaditas was a representative of the Alto Ramaditas Phase local to northern Chile. Fossil artisan wells in a reticulated system, with trellisslike segments, fits the topography and conserves water.


[66] Proyecto Acatzingo-Topeaca: A Settlement Survey in the Eastern Valley of Puebla, Mexico

The Acatzingo-Topeaca settlement project is an intensive survey of 500 km² in the eastern valley of Puebla. In the first survey season, from June to August, 1994, approximately 85 km² were surveyed and over 500 sites recorded. Sites ranged from ceramics scatters a few meters in diameter to one site, about 1.5 km² in size. Chronologically, these sites span the interval from the Middle Formative through the Late Postclassic. This paper summarizes the settlement data for each period and presents preliminary observations on patterns of demographic growth, agricultural production, and regional interaction.

Shelton, Craig T. (Auburn-Montgomery) [129] (see Wesson, Cameron B.)

Shelley, Phil (Eastern New Mexico) [61] Discussant

Shen, Chen (Toronto)

[71] Stone Tool Production and Utilization of Princess Point Complex from southwestern Ontario

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Lithics, both excavated and surface collected from several Princess Point sites along the lower Grand River, southwestern Ontario, are analyzed in order to test the hypothesis that stone tool making and use during the introduction to agriculture to Ontario reflect human behavior in food production. An increase in the use of formal tools and change in related productive strategies illustrate this adjustment of subsistence in southwestern Ontario 1,500 years ago. An explanation of why it happened is offered. The lithic data also inform our understanding of Princess Point settlement along the Grand River.

Shepherd, Deborah J. (Minnesota)

[31] Religious Beliefs of the Viking Age Finns: Ethnographic and Mythic Perspectives on Prehistoric Cemeteries

The Finnish people of the Viking Age (9th-12th centuries A.D.) left behind several distinct types of cemeteries employing disparate funerary rituals and symbolic texts. Comparison of these sites with ethnographic data about eschatology and social organization on the one hand and with the preserved oral tradition of pre-Christian myths and heroic tales collected by the Finnish suggests an interpretation of the cemeteries which reveals the prehistoric Finns to have been a shamanistic group deeply immersed in a culture of ancestor worship and spirit beings distinct from that associated with the later Saami.

Sheppard, Peter J. (University of Auckland) [61] (see Stevenson, Chris)

Shipp, Lisa (Northern Arizona) [70] (see William, Jerry D.)

Shimada, Yumi (Southern Illinois) and Hirokatsu Watanabe (Tezono Laboratory Engineering)

[136] Ground Penetrating Radar: Large Scale Application on Coastal Peru

The relatively dry, homogenous deposits found on flat surfaces along the coast of Peru for large scale application and detection of deep remains (over 3 m deep). A Koden Model KD-8-8 was mounted on a sled and pulled across systematic transects (4000+ m overall length) to test a hypothesized burial pattern and to map buried structures surrounding the monumental temple of Huaca Loro, Peru. Concurrent test excavations improved pattern recognition and depth calibration. This collaborative effort yielded data that point to a planned funerary pattern around the central axis of the temple of a scale heretofore undocumented in South America.

Shloko, Ellen, and Nicholas Kouchoukos (both, Yale)

[146] Up Above and In the Ground: Site Survey and Settlement Patterns in 18th-Century South Carolina

During two years of fieldwork at an 18th-century rice plantation in lowcountry South Carolina, the researchers used a variety of on-ground survey and remote sensing techniques to establish the history of settlement and land use on the plantation. The results of this study were then compared to information from other plantations in the region. This comparison allowed us to present data gleaned from satellite imagery, aerial photography, and shovel testing, among other methods, in an integrated approach to site survey.

Shoemaker, Jeffrey E. (Wisconsin-Madison)

[90] Mobility and Movement in the Portuguese Upper Paleolithic: A Regional Lithic Sorting Approach

Lithic sorting data recently recovered from 42 geologic flint sources and over 50 archaeological components in central Portugal provide evidence of diachronic variability in Late Pleistocene hunter-gatherers, mobility and movement. Definition of geologic flint types and artifact sorting based on the physical and chemical properties of the materials document changes in hunter-gatherer adaptive strategies corresponding to Glacial Maximum and post-Glacial Maximum conditions in the Portuguese Estremadura. Variability in the presence of nonlocal flints in the archaeological assemblages suggest a possible shift from residential to more logistical mobility patterns during the Late Upper Paleolithic.

Smith, Michael (Northern Iowa)

[116] Lithic Reduction Modes at 131A365, a Middle Woodland Occupation in Central Iowa

131A365 is an unexplored “site” overlooking the Iowa River in the Greenbelt of Hardin County in central Iowa. A 1994 University of Northern Iowa field school revealed a Middle Woodland occupation distinguished by zones of dense lithic debris, probably the byproducts of discrete flaking events. In this context, Mankert-type blade production can be inferred from the analysis of debris size distribution and patterns of covariation in discrete flake attributes.

Stevens, April [10] (see Beck, Lane)
Silverman, Helaine (Illinois-Urbana/Champaign) [53] Paracas Occupation of the Lower Pisco Valley, South Coastal Peru Recent excavations at the Paracas Necropolis on the Cerro Coloradito and Cañita Grande sites at the neck of the desert Paracas Peninsula are famous in the literature, yet the in-life provenance of the dead is debated (had they lived and died at the two aforementioned habitation sites or were they brought in for burial from valleys to the north and south?). Recent excavations on a major contemporary site in the relatively close-by lower Pisco Valley provides new data on the regional, cultural, temporal, and sociopolitical context of great circular tombs and on lower Pisco's Paracas occupation. New problems for future research are raised.

Silverstein, Jay (Pennsylvania State); [66] (see Sheby, James J.)

Simek, Jan F. (University of Puerto Rico)

Simmons, Alan H. (Nevada-Las Vegas) [12] Early Island Adaptnon: The Neolithic of Cyprus One of the first places where the so-called "Neolithic Revolution" occurred was in the Near East. Despite its proximity to the Levantine mainland, however, Cyprus represents a late, distinct Neolithic adaptation. This paper examines possible explanatory scenarios for this late development. I consider recent excavated evidence, including the implications of the first documented occupation of the island at Akrotiri Akrotolimou, as well as new investigations at Neolithic Khoutritos Outro in western Cyprus. Human subsistence patterns and associated ecological impacts upon an island environment are considered as key variables in understanding the early occupation of Cyprus.

Simmons, Scott (Colorado) [88] Maya Stone Tools from Tipuj, Lamanai, and San Pedro: A Contact Period Perspective on Technology and Change Recent research on the formal stone tools found in Contact period archaeological contexts at several sites in Belize has shown that variation in forms and manufacturing technologies exists both within and between sites. It is likely that strong cultural traditions as opposed to purely functional concerns were responsible for both the manner in which some of these tools were manufactured and the styles of the distinct forms that were produced. Ethnohistorical information is used in conjunction with the results of lithic analysis to interpret patterns of Maya behavior at the time of Spanish contact in Belize.

Simon, Arlene W. (Arizona State) [126] Social Networks and Alliances Among the Classic Period Salado of Central Arizona The prehistoric Salado were builders of platform mounds and compound-walled villages in the desert of central Arizona during the 13th to 15th centuries. Models of social organization proposed for the Salado are assessed in terms of site functions and relatedness of ceramic assemblages from burial and residential contexts. The associations among these settlements are examined through an integrated analysis that examines compositional characteristics of more than 250 related ceramic attributes. The results of these analyses indicate contrasting ceramic traditions, an amalgamation of production methods, and adoption of local materials over time. Using correlates to interpret these contrasts and similarities in ceramic traditions, interregional and intrabasin scales of social networks and alliances are examined.

Simon, Brona G. (Massachusetts Historical Commission); [48] Discussant

Simon, Mary (Illinois-Urbana/Champaign) and Kathryn Parker (Great Lakes Ecosystems) [59] Lithic Traits and the Emergence on the Pathway of Prehistoric Plant Exploitation Ongoing archaeological investigations in the American Bottom region of Illinois have produced a massive amount of archaeobotanical data. An initial synthesis by Sissel Johannessen, published in the 1984 volume American Bottom Archaeology, delineated broad regional patterns and evolutionary trends in prehistoric plant use. Subsequent botanical research supports Johannessen's regional framework and underscores a pattern of gradual economic transformation, punctuated by few but obvious and significant discontinuities. Incorporating new archaeobotanical data, we examine perceived changes and specific developments in plant use relative to discontinuities in other aspects of the archaeological record from the region.

Simons, David C. (Bureau of Land Management); [67] (see Copeland, James M.)

Simons, Donald B. (Michigan Archaeological Society); [56] (see Wright, Henry T.)

Sinkop, Carla M. (Michigan); [40] Discussant

Sisson, Edw. D. (Mississippi) [66] Tehuacan Viejo Tehuacan was the largest, most powerful of the four city-states which controlled the Tehuacan Valley at the Spanish Conquest. The archaeological site of La Mesa has been identified as the capital city of Tehuacan. Analysis of a topographic map of the site and of the surface distribution of artifacts are used to outline the major social, political and economic organization of the site. The results of these analyses may be used to plan future investigations at Tehuacan, the most important city-state of southeastern Puebla.

Skates, Robin (University of Wales) [76] Copper Age Societies in the Marche Region, Central Italy Neolithic forms of production, settlement and social relationship were actively transformed during the Copper Age in Marche, perhaps initially in response to escalating socioeconomic and ecological pressures upon locally restricted subsistence resources in the lowlands. For example, traditional subsistence strategies became more diversified and specialized; previously peripheral geographical zones were gradually colonized; social contacts and conflicts with neighboring groups and regions were intensified; well-planned settlements emerged as successful centers of production, consumption and ceremonial gift-exchange; and material and monitory symbolisms were employed more overtly in attempts to define the identity and power of certain groups within society.

Skote, Mikeld, and Rinita A. Delan (both, Southern Illinois-Evansville) [14] Magnetic Susceptibility of Soils as an Aid to Interpretation of Prehistoric Features The boundaries of prehistoric feature fills are often difficult to distinguish when fill zones are composed of soils similar to surrounding soils. As it has long been recognized that archaeological sites and features exhibit enhanced magnetic susceptibilities over surrounding soils, we hypothesized that this property could be employed to distinguish between feature fills and bordering soils where the distinction is otherwise unclear. This hypothesis was tested at the Scott Joint-Use Project in Southern Illinois. The results, though not conclusive due to a small sample size, are sufficiently positive to encourage further research.

Skibo, James M. (Illinois State) and Mark A. Neupert (Laboratory of Traditional Technology) [85] Pottery Life History: An Ethnoarchaeological Perspective from the Philippines Ethnoarchaeology holds the keys to understanding the structure of artifact life histories and applying this approach in prehistory. Ethnoarchaeological data from the Philippines are used to discuss the manufacture and use of cooking pots at the scales of household production among the Kalinga and specialized production in Guinsaugon. Using ethnographic examples of behavioral chain and modified concepts of techno-, socio-, and idea-function, we examine the structures of ceramic life histories. To develop archaeological approaches, we also demonstrate how vessel context and use-alteration traces can be used to determine life histories of particular ceramic assemblages.

Stiner, Bernadette C. (Northern Arizona); [136] (see Hunter, Andrea A.)

Slaughter, Mark C. (SWCA Environmental Consultants); [126] Mogollon Influence on the Holoholan of the Northwestern Tucson Basin Migrations are difficult to identify in the prehistoric record. Data obtained from Gibson Springs Site (northeastern Tucson Basin), suggests that peoples from adjacent regions moved here and produced
Smith, Michael E. (SUNY-Albany)
[125] Archaeology and the Aztec Empire
The archaeological analysis of ancient empires and their socioeconomic impact requires fine chronological control, data from both regional and household-level contexts, and adequate material-culture models of the relevant economic and political processes. These points are illustrated with archaeological data from the Mexican state of Morelos, a provincial area of the Aztec empire. Although Aztec imperialism had several identifiable direct effects in this area, it appears that its indirect effects (as expressed through its impact on local and regional politics and economies) were more significant for life and society in the provinces.

Smith, Shelley J. (Bureau of Land Management)
[26] Precollegiate Programs for Archaeology Education
SAA recognizes that conveying to children the value of understanding and preserving the past is an important component of a long-term effort to promote wise stewardship of archaeological resources. Precollege education can also promote understanding and respect for other cultural heritages. To achieve these goals include collaboration with governments, organization agencies, schools, and other groups; making quality tested materials and training available to teachers and youth group leaders; and introducing students to different educational methods in archaeology education programs.

Smith, Michael P. (Kennedy)
[130] Ceramics Production, Barrio Organization, and the Maya Economy: Economic Specialization at Sayil, Yucatan, Mexico
Economic specialization and craft activities in the Prehispanic Maya Lowlands are often viewed as organized at the household scale, portraying a sharp contrast to the large-scale industries described for the Central Mexican Highlands. This perspective, however, is not necessarily energitically diversified and, therefore, were not true urban places. Data from site-scale surface survey at Sayil, Yucatan, however, contradicts this view. This paper discusses evidence for a considerable range of labor-related aspects of ceramic organization and a Maya export economy in Northern Yucatan during the Terminal Classic period.

Sned, James J. (California-Los Angeles)
[126] Communities, Competition, and the Cultural Landscape of the Eastern Anasazi, A.D. 1275-1500
Recent field study of four late prehistoric communities in northern New Mexico has provided significant evidence concerning sociopolitical and economic organization among the eastern Anasazi following the late 13th century A.D. As documented through intensive surface survey in the aggregate community houses and field systems, shrines, trails, and field house found in the core territories of these local groups appear to reflect both ecological and social parameters. The picture of the cultural landscape that emerges from these data is one in which bounded local communities were increasingly the focus of competition over productive resources, particularly agricultural land.

Shortland, J. Sitte, and Kimball M. Banks (both, Bureau of Reclamation)
[110] The Middle Missouri: Another Dam Headache
Much of the Middle Missouri is under the management or control of federal agencies. How these resources are managed, though, varies between agencies. Consequently, there is no unified approach or agreement to this correct management. Differences have become most apparent in the past several years because of the floods that have impacted the northern Plains and the increasing concern over accelerated erosion that has accompanied flood control activities. These differences and their impacts on the archaeological resources are discussed and several solutions are presented.

Snow, Dean (SUNY-Albany)
Although often described as a process of discovery, archaeological units are created through a process involving the interaction of empirical data and assumptions about past cultural processes. The Hunter's Home phase was created thirty years ago to provide a bridge of continuity from the Puebloan tradition to the Wencho tradition. It is argued here that if discontinuity is assumed instead, one clearly replaces the other and that hierarchy appeared suddenly, not gradually.

Snow, Susan P.
[116] Constructive Imagination and Tropical Cosmology: The View from the North
Using the theory of constructive imagination (e.g. Snow 1993) which presupposes the importance
of environmental factors in the conscious construction of a culture's cosmology, this paper will examine the evidence for cosmological images which reflect a knowledge and conscious recognition of tropical environmental features within North American cultures. Archaeological, ethnographic, and ethnographic evidence will be used to compare and contrast tropical images with those constructed from northern latitude environmental features. The configuration of these groups of images throughout different levels of the cultures will be examined in order to present tentative hypotheses about culture contact, migration, and diffusion.

Snyder, Lynn M. (Smithsonian) [135] Domestic Dogs as a Native American Food Resource: Archaeological Evidence From the Northern Plains

During the river basin salvage excavations of the 1950-1960s in the Middle Missouri subarea, skeletal remains of domestic dogs were recovered in frequencies second only to bison. Tracing evidence on recovered specimens indicate that these animals were regularly eaten. Detailed analysis of nearly 8,500 dog bones from sites spanning the entire sequence of village occupation, from Initial Middle Missouri (ca. 1000 A.D.) to the post-contact, Coalescent period (ca. 1600) does not document increasing intensity of use during the later periods, perhaps reflecting the progressive degradation of more traditional native food sources following European American contact and development of the fur trade system throughout the plains.

Sobolik, Kristin D. (Maine) [100] (see Gretmelin, Kristen J.)

Soffer, Olga (Illinois) [16] (see Adovasio, J. M.)

Soffer, Olga (Illinois), Pamela Vandiver (Smithsonian), and Bohuslav Klima (Czech Academy of Sciences)

[16] Paleolithic Ceramics and Clay Objects from Pavlov I

We report on the technological and stylistic analyses of the clay and ceramics inventory from the Pavlovian site of Pavlov I in the Czech Republic. This assemblage is compared to the one from the near-by site of Dolni Vestonice I to document variability between them due to differences in the composition of the loci used to fashion the objects and human intent. Differences in the spatial distribution of the inventories at the two sites suggest further variability in the context of ceramic production. Finally, fabric impressions on the fragments point to the use of woven fabrics at ca. 27,000 B.P.

Soliman, Paul, and Leonard A. Friedman (both, Larson Anthropological/Archaeological Services)

[45] Late Holocene Cultural System in the Dwumenth River Valley, Western Washington

Recent archaeological and ethnographic investigations document small, specialized purpose fishing camps, contemporary fishing practices, and traditional cultural properties in the Allentown and Black River Junction areas in the Duwamish River Valley of Seattle, Washington. Combined with excavation data from the Dwumenth No. 1 site at the contemporary Duwamish River mouth and sites along the Black River to the east, the data sets demonstrate complex riverine and estuarine land use patterns over the past 1,500 years.

Sosa Magaña, Carlos (Law Engineering & Environmental Services)

[115] Trópicas de la Montaña

Los estudios arqueológicos implantados en los Ríos Portugués e Cerrillos produjeron evidencia de una industria azucarera en las comunidades de Tímes y Maragá. Esta industria aparenta haber tomado fuego durante la última mitad del Siglo XIX. Evidencia arqueológica e histórica indica de que esta industria se desarrolló en forma acelerada a principios del Siglo XX. En este sentido se presenta un balance del estado actual de las actividades mineras y su evolución en el siglo XXI. En el montaña. La evidencia arqueológica de los contextos arqueológicos de la montaña se comparan con elementos análogos localizados en otras islas de las Antillas.

Sorensen, Francisca Ramirez (Texas-Austin) [82] (see Neely, James A.)

Southon, John R. (Lawrence Livermore) [17] (see Chipilapa, Christopher)

Spencer-Wood, Suzanne M. (Peabody Museum of Archaeology and Ethnology) [23] Discussant

Spieckman, Katherine (Arizona State)

[56] Domestic or Ritual? The Contexts of Use of Rio Grande Glaze A Ceramics

The widespread adoption of glaze-decorated ceramics throughout the northern Rio Grande after A.D. 1300 reflects a pan-Southwestern shift to red- and yellow-slipped vessels. Crown has postulated that these vessels are associated with the adoption of a region-wide cult, although the ceramics themselves

are used in domestic as well as ritual contexts. In order to identify the contexts in which Rio Grande glazed wares were used, this paper presents an analysis of the contexts from which early glazed vessels and sherds have been recovered, and of the artifacts found directly associated with them.


Here we review early (fluted-point) Paleolithic settlement pattern, lithic procurement, subsistence, and lithic technology data, which show remarkable similarities within the region, parallels between the New England-Maritime region and Great Lakes, and contrast with the remainder of New England. The Great Lakes region sequence of chronological stylistic change in fluted points is mirrored, although perhaps not followed identically, in the New England-Maritime region. The identification of a Pawtucket phase-like site south of Boston, Massachusetts, has raised questions of continued migration or transmission of detailed stone tool style information from the Great Lakes basin after initial colonization of the region.

Stead, C. Russell (Indiana State)

[103] Resource Intensification Among Middle Holocene Arctic Hunter-Gatherers in the U.S. Midcontinent

A shift to logically organized settlement strategies by the middle Holocene Arctic hunter-gatherers has often been linked to the presence of resource-rich aquatic habitats that emerged with modern river systems. This paper explores whether aquatic and semi-aquatic animals were a crucial element in the selection of this strategy, or if the shift reflects the more intense use of terrestrial plant and animal resources. Middle to Late Archaic sites in a variety of environmental settings are used to examine the dietary rankings of resources. Reasons for selecting a logically organized strategy to exploit these foods are also explored.

Stahl, Peter W. (SUNY-Binghamton), James A. Zeidler (Illinois-Urbana/Champaign), and Marie J. Saffo (Ecole Polytechnique del Litoral, Guayaquil)

[127] Shamanistic Elements in a Terminal Valdivia Burial, Northern Manabi, Ecuador

New scholars have contributed to our knowledge of South American shamanism as Gerardo Reichel-Dolmatoff. His work provides a rich body of knowledge for anthropological and archaeological interpretation. In this context, we discuss a Terminal Valdivia burial (Piquigua Phase, ca. 1600 B.C.) from a multicomponent site located high on the Middle Juma Valley of northern Manabi Province, Ecuador. After a brief description of the burial and the stratigraphic context, emphasis is placed on associated grave goods and their relationships to correlates of shamanistic religious practices known from other archaeological contexts within the Early Formative Valdivia cultural continuum.

Stallings, Kaylee (Texas-Austin) [13] (see Lohse, Jon C.)

Stanchly, Norbert (Toronto)

[88] Identifying Social Complexity in Maya Archaeoastronomy: Some Issues of Method and Theory

Zooarchaeological analysis in the Maya lowlands has traditionally been concerned with reconstructing ancient Maya subsistence patterns. Increasingly, this research has addressed issues of social complexity, such as wealth and status differences within Maya society and how these might be manifested in the zooarchaeological record. This paper critically examines some issues of method and theory as they relate to the interpretation of social status from Maya archaeoastronomy in light of recent debate on the subject of Mesoamerican elites.

Starr, Alan (Advisory Council on Historic Preservation)

[67] Right-Way Archaeology: Putting the Linear Back into Linear Thinking

The conduct of right-way archaeology in the federal government is vulnerable to misapplications of the "straight and narrow" decision making course imposed by the regulations, 36 CFR Part 800. These regulations provide Federal decision makers with a process comprised of sequential information gathering steps designed to promote informed decisions that are justifiable from legal as well as logical frameworks. However, agency efforts to minimize project costs by narrowly defining the scope of historic property considerations may result in illogical decisions that risk legal challenges, and project delays. This paper examines common problems of right-way archaeology, and appropriate solutions within the context of the regulations.

Stanford, Dennis (Smithsonian) [134] Discussant
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Stanford, Dennis (Smithsonian), Margaret Joby (American), and Larry Banks (Southern Methodist)

[9] Early Paleolindian Diet Breadth as Seen From the Lewsiville Site, Texas: Critter Buffet

The Lewsiville site, Texas, became notorious during the late 1950s when radiocarbon assays of 37,000–40,000 B.P. were obtained from a "hearth-like" feature containing a Clovis point. The discovery of two additional features led to a re-investigation of the site in 1979 and 1980. Chemical analysis determined that lignite was present in the features and accounts for the early dates. Analysis of feature and function fails to suggest a wide variety of vertebrate and invertebrate species were introduced to the site by Clovis people and indicates that the Clovis diet reflects a broadly based, ecologically diverse diet which was well adapted to the diverse and changing environments during the Pleistocene/Holocene transition.

Stanhope, Charles (Field Museum of Natural History)

[10] The Late Formative/Tiwatanku Transition in the Western Titicaca Basin

This paper assesses the Late Formative/Tiwatanku transition in the western Titicaca Basin using newly discovered settlement data. These data suggest that our traditional view of this critical time period must be re-evaluated. The Late Formative in the Juli-Desaguadero region was represented by an extensive, largely autonomous chiefdoms characterized by complex economic, political, and ideological systems. This paper will define these societies and suggest new models for understanding the emergence of the Tiwanaku state in this Late Formative context.

Mark, Morton (Smithsonian), Jeffrey Clark (Center for Desert Archaeology) and Mark D. Elson (Utah State University - Utah Archaeology)


The presenters will focus on the social and cultural identity of prehistoric populations in the Tonto Basin. An examination of the material culture will be presented that contains a mix or material culture typically described by the terms "culture area," "province," or "alliance." This study explores processes that generated spatial discontinuities in the material culture patterning at sites in the prehistoric Tonto Basin. The concept of "technological style" is applied to the goods of everyday life (i.e., domestic architecture, agricultural implements) to yield insights on social boundaries and regional systems. This emphasis on patterning in technical as well as decorative variation identifies previously undetected dimensions of social interaction.

Steadman, Lee (California-Berkeley)

[12] Regional Diversity and Integration in the Formative Ceramics from Camata

Recent excavations at Camata on the western side of Lake Titicaca have led to the development of an eight phase ceramic sequence spanning the Middle and Upper Formative periods. A series of AMS radiocarbon measurements dates this sequence to 1200 B.C. – A.D. 400. In the majority locally produced, the ceramics from the site nevertheless show strong stylistic and technological affinities with contemporary assemblages both to the north (Qhuyra, Pucara) and to the south (Chimborazo) re-creating new information on the social and political relationships within the Basin during this period. This paper presents the ceramic sequence from Camata, and discusses the position of the site in a larger Titicaca Basin ceramic tradition.

[11] (see Hauser, Christine)

Seffken, Anastasia (New Mexico); [42] (see Penman, Shown L.)

Seffken, Anastasia, and Ann Ramenofsky (both, New Mexico)

[13] Units as Instruments of Measure: An Introduction

We approach unit construction as a methodological rather than a procedural pursuit. A consequence, units must be identical, explicit, and systematic with the expressed goal of measuring a particular physical variation. As with any scientific instrument, the performance of units must be evaluated within the range of its sensitivity for which they were created. We begin this symposium by building the context for subsequent applications by defining key concepts for the formation and evaluation of units. We emphasize the difference in meaning between reliability and validity, and we clarify the use of these concepts in archaeological practice.

Seifert, Amy F. (Michigan) and Patrick Saltarrelli (Wisconsin-Madison)

[133] Markers of Identity: Labrets and Social Evolution on Kodiak Island, Alaska

Labrets were a common item of personal adornment among the complexly organized foraging societies of the Alaskan Gulf. Based on ethnographic analogies, archaeologists commonly interpret their occurrence in prehistoric contexts as evidence of ranking. This paper presents a stylistic analysis of prehistoric labrets from the Kachemak and Kenaiqiq traditions of Kodiak Island, Alaska, and examines systematic variation in the distribution of labret styles. We argue that labrets carried information on the wearer's social identity, signaled affiliation with a corporate group, not simply differences in individual status, and relayed different social messages at different levels of social complexity.

Stein, Gil (Northwestern); [58] Discussant

Stein, Julie K. (Washington)

[123] Rethinking the Arid and Natural Unit of Excavation: A Stratigraphic Approach

Alternative Archaeologists consider frequently the stylistic or functional units into which they place artifacts, but they rarely consider the units constructed during the extraction of those artifacts from the ground. The use of either natural or arbitrary levels is noted, layers described, and counts of artifacts-per-layer noted. An alternative approach is to construct units described by their stratigraphic, biological, or artificial attributes to create the sequence. Most importantly, a single sequence is deemed most appropriate or correct, rather many different groupings are constructed using a wide variety of attributes. This stratigraphic approach allows association to be shuffled and resulting boundaries noted. The deposits from which artifacts come, and the associations or contexts we choose for those artifacts, affect our interpretations.

Steinberg, John M. (California-Los Angeles)

[55] The Plowzone: Disturbed Households Archaeology of Chiefdoms in Northeast Denmark

The Tyno Archaeological Project created a plowzone methodology that discloses the nature of lithic production at a site, regardless of preserved subsurface features. We have devoted a large portion of our resources to 'excavating' mass amounts of plowzone from discrete locations at sites from the Early Neolithic through to the Early Bronze Age. After screening over 150,000 liters of soil and recovering over 10,000 artifacts patterns of inter and intra site variability are evident. The distribution, density, and characteristics of flakes and tools reveal a picture of the organization of lithic technology and the value of stone tools at chiefly and commoner households.

Stemper, David M. (Georgetown) and Hector Salgado López (INCHIA, Colombia)

[127] Figurines, Meanings, and Politics from 700 B.C. to A.D. 400 Colombia's Pacific Coast

We examine the usefulness of theories--such as those in Reichel-Dolmatoff's essay "Antropomorficas Figuralehas de Colombia, Their Magic and Art"--to interpret 100-200 figurines from the Bolivar ("La Tovilla") region (11th-15th centuries). Our evidence comes from an analyses of the contexts of use and discard, dating (2-3 periods between 600-700 B.C. and A.D. 300-400), the 사회의 200 ("La Tovilla") region. This paper examines the usefulness of theories--such as those in Reichel-Dolmatoff's essay "Anthropomorphic Figurines from Colombia, Their Magic and Art"--to interpret 100-200 figurines from the Bolivar ("La Tovilla") region (11th-15th centuries). Our evidence comes from an analysis of the contexts of use and discard, dating (2-3 periods between 600-700 B.C. and A.D. 300-400), the collaboration of figurine ornaments and anatomical features and the role of molds to standardize production. We suggest that the similarity of figurines from Tocancito-La Tovilla to Bolivar reflects this region's political and economic control along a 350-km coastline.

Stephens, Dong (San Juan National Forest)

[132] An Experience Based Approach to Heritage Site Interpretation

Steady increases in the number of visitors to heritage sites has precipitated the necessity to balance visitor needs with resource preservation. This paper outlines an approach that combines theories concerning visitor behavior with sound cultural resource preservation. The key is to understand the context of research, and then design the experience to fit the cultural and mental needs of the visitor. We present the experience at the Dogtooth Bend site in southwestern Illinois as an example of one such experience. The relationships of the mound centers to the regional landscape and to each other suggest a highly complex site system, and it is important that we understand these relationships in order to interpret the mound as a whole.

Stephens, Jeanette E. (Southern Illinois-Carbondale)

[16] The Political Geography of Mississippian Mound Centers at the Mississippi River Confluence

Several mound centers occurred in the Mississippi–Ohio River confluence region during the Mississippian period. However, no single center dominated the area or occupied the actual confluence itself. Geographic centers were fairly evenly distributed across the landscape. Each appears to have been a small polity oriented toward its immediate physiographic setting, as well as to the main river channels. The Dogtooth Bend site in southwestern Illinois is an example of one such center. The relationships of the mound centers to the regional landscape and to each other suggest a highly complex site system, and it is important that we understand these relationships in order to interpret the mound as a whole.
Sterling, Sarah L. (Washington) [22] Recognizing Functional Differentiation at the Predynastic/Old Kingdom Transition in Egypt

During the Predynastic/Old Kingdom transition, artifacts show increased similarity across Egypt. The replacement of heterogeneous Predynastic assemblages with standardized Old Kingdom assemblages could represent a change in the scale of selection from several self-sufficient, interacting groups to a functionally independent society in which individuals no longer ably represent the range of subsistence activities necessary for survival. Trade in subsistence goods are indicative of functional differentiation within and between societies. Published data on the distribution of subsistence items provide information on whether this transition represents a change in scale.

Stettler, Heather (Chicago) [119] Macrobotanical Remains from the Site of El Juyo, Santander, Spain

This paper discusses the recovery, identification, and analysis of paleobotanical remains from the 1993 and 1994 field seasons at the Early Magdalenean site of El Juyo (Sanatander) Spain. The analysis uses statistical tests of significance to examine the spatial distribution of the macrobotanical material. It also explores the relationship of this distribution to the distribution of stone and bone tools within the site and to the features of the site—including structures and hearths. Paleoenvironmental implications are also noted.

Stevens, Michelle (Arizona) [12] Chalcolithic-Early Bronze Age Land Use in the Southeastern Wadi Araba, Jordan

The distribution of several newly and previously recorded Chalcolithic–Early Bronze Age sites in the southeastern Wadi Araba, Jordan suggests that human occupation was concentrated near the Gulf of Aqaba. However, several more northern sites in the Wadi Bukita indicate the presence of a small community with different land use patterns. The chipped stone assemblage from both of these areas provides evidence for determining the nature of contact between communities on the Jordanian Plateau and in the Wadi Ara.

Stevenson, Chris (Diffusion Lab), Peter J. Sheppard (University of Auckland); Douglas G. Sutton, and W. Ambrose (University of Auckland) [61] Advances in the Hydration Dating of New Zealand Obsidian

Newly developed methods and calibrations for determining the age of flaked obsidian surfaces have been applied to New Zealand archaeological obsidians. Hydration bands were measured under high magnification (>100x) using a MOCHAD automatic hydration analysis system. Hydration rates were then calculated on the basis of obsidian water content as estimated from artifact density while effective hydration temperatures were established from published temperatures derived from thermal cells. Hydration dates have been compared with radiocarbon dates from five archaeological sites in the North Island of New Zealand. The obsidian age determinations correlated well with the radiocarbon dates from the same context except for those recovered from sand dune sites. These results validate the ability of obsidian hydration dating procedures to provide accurate calendar year age estimates.

Stevenson, Christopher M. (Archaeological Services Consultants) [37] (see Awe, Jaime J.)

Stevenson, K. (National Park Service): [122] Discussant

Stewart, R. Michael (Temple) [71] Clemson Island and Early Agriculture in the Northeast

Clemson Island (A.D. 800-1300), the first farming culture in the Susquehanna Valley of Pennsylvania, is summarized and its role in the cultural evolution of the region discussed. The culture appears at the same time as other farming cultures throughout the region especially in the Appalachian area extending from south central New York to the Carolinas. The use of maize and other crops is not viewed simply as the outcome of local peoples dealing with the problems of population growth and stress on traditionally exploited resources. Alternative scenarios are presented which involve the social costs of subsistence practices and the effects of migrations.

Stiles, Cynthia (USDA Forest Service) [132] Partners 'R Us: Doubling the Fun Through Interagency Partnerships

The State Region 2 Archaeology Center, located in northeastern Wisconsin, is established through a partnership between the State Historical Society of Wisconsin and the Nicolet National Forest. Responsibilities include: 1) identifying archaeological sites on private and state lands, and 2) providing assistance/information/public education programs to local governments, Indian tribes, private and public agencies and the general public. The center also produces long-term plans, National Register nominations and studies of historic and prehistoric cultures of the region.

Stutz, Mary C. (Arizona): [38] Participant

Squires, Laura R. (Vanderbilt) [73] Ceremonial and Economic Border Activities in Postclassic Mixtec Society

Early pictorial manuscripts, maps and documents produced by the Mixtecs of Oaxaca, Mexico, provide information on prehispanic communities and their borderlands, and offer an opportunity to interpret the Mixtec past through an ethnoarchaeological framework. This paper examines the ethnographic and archaeological evidence indicating the ideological and economic significance of activities carried out not within communities but on their borders. Activities associated with named border sites include ceremonies and ball games, as well as resource procurement and marketing. This paper explores the procurement and marketing of resources.

Stouman, James B. (Wisconsin-Madison) [50] Paleoindian Adaptive Strategies in Wisconsin

The Paleoindian occupation of Wisconsin can be postulated to have spanned the interval 11,200 B.P. to 10,000 B.P. This paper reviews the stylistic and distributional evidence concerning the architectural remains of Paleoindian peoples of the region, and places these on a paleoclimatic and paleolimnological chronology for this period, to infer that adaptive strategies must have involved high mobility along with highly variable (both in time and space) resource exploitation, with the primary emphasis being upon hunting.

Stump, Jeffrey (Yale), Barbara Fast (Northern Illinois), and Elizabeth Pope (Texas-Austin) [34] The Popol Va: Politics and Sacred Space at Copan, Honduras

Recent excavations at Copan, Honduras, have uncovered the site's "Community House," the Popol Va and provide us with the window which reveals the relationship between architecture and the Maya cosmos. The Popol Va was constructed just after the political catastrophe of the beheading of Copan's ruler by a rival city. The Copan elite took advantage of the ensuing political upheaval to expand their power by placing the Popol Va in the most sacred protected space in Copan. This paper examines the use of architecture and iconography as a system of political propaganda that reflects the changing political environment of Late Classic Copan.

Stute, Andrea (Wisconsin-Milwaukee) [39] Socio-Spatial Paradigms and the Production of Maya Rock Art

An important cultural paradigm underlying the production of Maya rock art is the perception of a controlled community space versus an uncontrolled, emotionally charged wilderness space. This spatial division has generated a tradition of pilgrimage to sacred sites in the wilderness, where Maya rock art, primarily cave art, is found. Human-topographic interaction in this case is patterned on movement to and from a center (the community). The paper compares this socio-spatial model with others lacking a fixed center, as in nomadic societies, and considers their influence on the form and function of rock art.

Stone, Connie L. (Bureau of Land Management) [132] Linking Cultural Resource Management to Ecosystem Management: A Case from Arizona

Cultural resources are too often forgotten in the new emphases on ecosystem management by federal land management agencies. Yet, ecosystem management offers new opportunities for proactive management of cultural resources during a time when such opportunities are becoming more limited as federal agencies downsize and restructure. Perry Mesa, a significant archeological site in southern Arizona, offers a case example showing how the Bureau of Land Management and the U.S. Forest Service have cooperated to ensure that cultural resource management is an integral component of ecosystem management of the Agua Fria high desert grassland.

Storlzy, Glenn R. (Iowa) [10] Romans, Religion, and Urban Planning: Implications for the Archaeological Interpretation of Urban Configurations

The coexistence of many cultures appears profoundly religious, so archaeologists often interpret the alignments of structures according to conjectured religious or cosmological significance. Although Roman city planning originated in religious context, ethnographic analysis of its execution requires a cautionary note. The next connection between Roman cosmography and the shape of Roman cities is the presence of two religious symbols, the forum and the circus, which give way to the more secular considerations. Thus the importance of religion in city planning in other cultures, such as China and analysis of the benefits that this partnership provides to all parties, in a time of limited funds, is presented.

Schnier, Mary C. (Arizona): [38] Participant

Stowers, Laura R. (Vanderbilt) [73] Ceremonial and Economic Border Activities in Postclassic Mixtec Society

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Mesoamerica, may have been similarly compromised, implying that the role of religion in urbanization may be overemphasized.

Soder, David M., and Timothy J. Abel (both, Toledo)

[71] The Inception and Consequences of Maize Agriculture: A Perspective from the Western Lake Erie Basin

The focus of this paper is upon the inception of maize agriculture among two indigenous late prehistoric cultural manifestations which inhabited the western Lake Erie region; and the consequences of increase maize dependency as inferred from cultural interaction among these and other manifestations in the Midwest. It is herein suggested that increased maize dependency initiated a demographic crisis in the western Lake Erie region, precipitating economic and demographic change between these two cultural groups. Various data sets are drawn upon to infer temporally distinct changes in the economic, social, and political landscape of the western Lake Erie region.

Strand, Jennifer G. (Arizona)

[42] Ritual Behavior and the Faunal Remains From a “Great Kiva,” Homol’ovi II Pueblo

In 1993 a “Great Kiva” was excavated at the 16th century aggregated pueblo site of Homol’ovi II with the intent of examining ritual behavior and its impact in social relations. Ritual practices are identified in the recovered faunal assemblage by the presence of exotic or rarely recovered species, the elements recovered, the ratio of identified species, and the context of the recovered specimens. This assemblage is compared with faunal assemblages from ceremonial and nonceremonial structures at Homol’ovi I and related sites.

Strass, Lawrence G. (New Mexico)

[60] Coming Out from the Cold: Western Europe in Dryas I

As the Last Glacial Maximum gradually loosened its grip on Western Europe, there occurred a variety of cultural changes (adaptive responses) in the region to which humans had been more or less confined between 21-18 kya. These included: (1) continuation and regional diversification of the Solutrean hunting tradition, (2) adoption of a more sedentary lifestyle, and (3) new landscapes and environments for hunting. This widespread style of rock art suggests the existence of a long-standing religious tradition in which women and men are conceptually related as hunters and sustainers of human life. This basic concept was retained for over 1000 years on the northern plains and was shared by horticulturalists, bison hunters, and horse pastoralists.

Stratigich, Nicola H. (SUNY-Buffalo)

[21] Prehispanic Pottery Production at La Quemada, Zacatecas

Intensification of pottery production at the Epipaleolithic site of La Quemada, Zacatecas, is addressed by characterizing more than 200 sherds and 31 clay samples from La Quemada and three contemporaneous sites to identify resource selection, production areas, and interregional exchange. All of the sites considered were self-sufficient in pottery production. However, two elaborately decorated wares, Pseudoclassico and North American, were manufactured at Quemada and pottery analyzed from the ceremonial precinct of the site is compositionally distinct. The production of labor intensive vessels coupled with evidence for selectivity in resource procurement suggests that incipient craft specialization occurred at La Quemada.

Streight, Melanie J. (Department of Interior); [87] Discussant

Stumpf, Gary (Bureau of Land Management)

[132] Using Ethnobotanical Studies to Improve Ecosystem Management

“Ecosystem management” is a term used frequently in land managing agencies today. It signals a shift from managing resources separately on the landscape, to managing resources holistically as interconnected parts of environmental systems. Ethnobotanical studies, which focus on past human uses of an area, can provide the kind of information and long-term perspective that can help land managers understand how the ecosystems they manage have changed through time, how human land uses have modified them over the past hundreds or thousands of years, and how present-day land use proposals are likely to affect the health of those ecosystems.

Styles, Bonnie W. (Illinois State Museum)

[103] Changing Subsistence Strategies in the Midwestern United States

Faunal data from Midwest archaeological sites document geographic and temporal variation in subsistence strategies. Early to mid-Holocene environmental changes exacerbated differences between resource catchment areas within and outside the large river valleys. Mid-Holocene populations relied greater use on white-tailed deer and aquatic resources. In large river valleys, the trend of increasing reliance on aquatic resources continued in the late Holocene, but the representation of white-tailed deer and other terrestrial mammals declined. These broad patterns correspond to changes in environment, plant use, and settlement and mobility strategies.

Sugiyama, Saburo (Dumbarton Oaks)

[82] Symbolism of Human Sacrifices at the Feathered Serpent Pyramid, Teotihuacan

This paper discusses specific ritual meanings of the sacrificial burial complex discovered at the Feathered Serpent Pyramid. It consisted of about 200 people sacrificed with exceptionally rich offerings made with obsidian, greenstone, shell, and other materials. Reconstruction of the victims' bodies and their associations with offerings are demonstrated through the Mapilco computer program in order that identification contexts are systematically examined and visualized over excavation periods. Particularly, cosmology, temenos and spatial dimensions, ritual warfare, and gender involved in ritual sacrifices are themes I will focus on for my analysis and interpretation. The paper finally discusses the ritualization involved.

Sulfer, Charles (Southern Methodist); [114] (see Freidel, David A.)

Sullivan, Lauren A. (Texas-Austin)

[13] The Internal Dynamics of a Small Maya Site: The Excavation of Las Abejas

This paper presents the results of three years of research at Las Abejas, a small Maya site located in northwestern Belize. Investigations at the site have focused on mapping the major architecture in order to determine structure function, dates of habitation, and to record the architectural and the history of the site. A settlement survey of the area surrounding Las Abejas and the shallow trench excavation of eight structures to the Late Classic occupation have provided a basis from which the internal organization of the site can be examined and social, political, and economic relationships of the region discussed.

Sullivan, Lynne P. (New York State Museum); [104] (see Nessius, Sarah W.)

Sundstrom, Linda

[17] Buffalo Women: Changing Contexts of a Siouan Rock Art Tradition

Traditional Lakota, Mandan, and Hidatsa religious beliefs provide a context for interpreting the meaning and function of prehistoric Siouan rock art. The rock art depicts ancestors, traditional ceremonies, and animals such as buffalo, wolves, bears, and birds. This widespread style of rock art suggests the existence of a long-standing religious tradition in which women and men are conceptually related as hunters and sustainers of human life. This basic concept was retained for over 1000 years on the northern plains and was shared by horticulturalists, bison hunters, and horse pastoralists.

Sutherland, Donald R (Bureau of Indian Affairs)

[106] What Archaeologists Who Wish to Practice on Indian Lands Need to Know About the Trust Relationship Between Indian Tribes and the United States

Because of the manner of its relationship with Indian tribes, the Federal Government manages Indian lands quite differently from the way in which it manages public lands. In this presentation, key principles guiding this relationship, such as Federal recognition of tribes, trust responsibility, tribal sovereignty, the government to government doctrine and self-determination, are explained as it is the administrative role of the Bureau of Indian Affairs. The goal is to help archaeologists better understand how these principles condition the manner in which the Government treats archaeological resources on Indian lands.

Sutnick, Marie J. (Escuela Politecnica del Litoral, Guayaquil); [127] (see Stahl, Peter W.)

Sutton, Douglas G.; [61] (see Stevenson, Chris)

Sweeley, Tracy (Colorado)

[62] Objects, Space, People, and Power at Ceren, El Salvador

According to a relatively rigid sexual division of labor within Classic period Mesopotamian societies, the use of space at Ceren, El Salvador is examined utilizing a gendered perspective. Statistical analysis of artifact distributions provides evidence of the extent to which single or sexed gendered spaces can be found at Ceren. An analysis of the presence and absence of specific gender associated artifact types within pooled functionally equivalent structures and spaces are used to assess possible power relations associated with those spaces and the products of the labor performed within them.

Swidler, Nina, and Janet Cohen (both, Navajo Nation Historic Preservation Department)

[54] Whose Sites Are They Anyways: Interested Party Consultation on the Navajo Nation

This paper presents the processes for consultation with other tribes on road improvement projects throughout the Navajo Nation. The Navajo Nation Historic Preservation Department, Roads Planning
Program, has taken a leading role in integration of other tribes' concerns into the planning process for management of archaeological and traditional cultural resources. This consultation fulfills obligations set forth in Section 106 of the National Historic Preservation Act and a recently ratified Programmatic Agreement. Along with consultation procedures, some of the difficulties and controversies inherent in this type of consultation are addressed.

Swihart, Sharon (Massachusetts)
[34] Long Distance Relationships and Elite Legitimation: A Case Study from Late Preclassic Northwestern Honduras
Río Pelo, Yoro, Honduras is a late Preclassic site situated at the base of the Mico Quemado Mountains, overlooking the lower Ulua River Valley from the east. When considered in terms of the site's and valley's proxemics, results from a recent, brief salvage excavation at a putative domestic unit are important for reassessing Río Pelo's development and function, and its role in the valley and beyond. These considerations lead in turn to interesting hypotheses regarding the nature of elite legitimation and the degree to which it was dependent upon long distance economic and, perhaps, ideological relationships.

Syrett, Matthew D. (California-Santa Barbara)
[47] The Use of Geographic Information Systems to Explore Models of Social Change During the Pleistocene/Holocene Transition in Europe
Archaeologists have modeled the social changes of the Pleistocene/Holocene transition in Europe as resulting from environmental or demographic forces. However, researchers have been unable to explore these forces at a continental scale using traditional techniques, which has prevented testing of these models of causation. With the technology of a geographic information system, I have tested the above models by recreating past demography and environment in Europe and comparing these dimensions to one of the cultural developments of the European Holocene. I will show that previous models of causation are inadequate to explain why microclimates developed.

Tacon, Paul S. C. (Australian Museum-Sydney): [17] (see Chippindale, Christopher)

Tankersley, Kenneth B. (SUNY)
[116] Temporal and Spatial Paleoindian Subsistence Patterns in Eastern North America
New data from archaeological sites in eastern North America demonstrate that Paleoindian subsistence strategies varied through time and across space. Chronoclines and geodivines are evident in the technological and stylistic diversity of the tool kits, the variety of raw materials procured, and the environmental settings exploited. The subsistence patterning presented here is inconsistent with what we would expect to find if Paleoindians were simply big game hunters or generalized foragers.

Taglia-Recillas, Horacio (Unidad Autónoma Metropolitana-Iztapalapa): [82] (see McClung de Tapia, Emily)

Turko, Stanley M. [64] (see Hurt, W. Jeff)

Torrado, Myriam (Facultad de Filosofía y Letras)
[63] El Desarrollo de la Arqueología en los Andes Meridionales
Se propone efectuar una reflexión crítica acerca del proceso de desarrollo de la arqueología en los Andes del Sur durante los últimos veinte años, desde la perspectiva y la práctica de una arqueología que investiga en el área del Noroeste Argentino y que ejerce la doctrina en una universidad Argentina. Se analizan las condiciones histórico-sociales que han incidido en su desenvolvimiento en forma pendular, tanto a través de los programas de vinculación como en el reconocimiento de conocimiento por parte de los investigadores norteamericanos afronta frente a las influencias teóricas externas, en especial, del modelo frances.

Teltscher, Patrice (Arizona)
[123] Settlement as Unit of Measurement: Issues of Validity and Reliability
The concept of settlement, a methodological device to examine variation in the archaeological record in terms of social organization, was never formally defined in terms of a specific explanatory framework. Consequently, the validity of this unit must be examined post hoc. This reveals inconsistencies, due to its use as a unit of observation, measurement, analysis, and synthesis. For some explanatory frameworks the unit is valid. Since the concept operates in an archaeological context, it constitutes an unreliable unit of measurement. Given the reliability problem, we should consider frameworks that require different measurement units for understanding the evolution of human social organizations.

Thacker, Paul (Southern Methodist)
[16] Representative Settlement Studies of the Upper Paleolithic: The Importance of Disturbed and Small Sites
This paper demonstrates the necessary inclusion of small sites, surface scatters, and plowzone levels in any regional approach to the Late Pleistocene archaeological record. Using data from the Magdalenian of central Portugal, correlations between modern land use, Pleistocene landforms, and site types are detailed, while the systematic bias created by analyzing only sites in depots is illustrated. Including small, surface, and disturbed sites facilitates more robust inter-site comparison, technological organization modeling, and land use studies.

Thomas, D. H.: [122] Participant

Thompson, Robert G. (Minnesota)
[131] A Functional Study of Brainerdware Pottery Through Phytooliths Recovered from Food Residues
The Roosevelt Lake Narrows, a multi-component site in Cass County Minnesota, yielded abundant Initial Woodland pottery. This pottery was mostly Brainerdware, and represented the accumulation of multiple occupations at the site. Phytooliths recovered from these residues combined with other data recovered at the site, provide a picture of plant use during these multiple occupations, including both plants used and the necessary processing activities implied.

Thoms, Alston V.
[9] Late Paleoindian Phantoms and Early Archaic Land-Use Strategies: A Savannah Perspective from the Southeastern Periphery of the Southern Plains
The Richard Beene site is located in a riverine setting within south-central Texas' savannah region. Archeological projective points and adzes dominate the assemblage of a late deeply buried, 9000-year old component. The faunal record attests to the primary importance of deer-sized animals and the use of many large faunal remains. The use of riverine fauna, including small land animals, river mussels, and fish. Abundant fire-cracked rock and numerous heavy-duty tools hint of the importance of plants. The inferred microenvironment was oriented toward hunting-gathering-fishing in more terrestrial, generic, Archaic-style land use than with a conventional Paleoindian, hunting-oriented system.

Thurston, Tina L.
[128] The Power of Place in Iron Age Denmark: A Physical and Cultural Geography of State Formation
Spatial relationships in cultural landscapes are empirically observable, but also encode perceptions and beliefs, permitting the study of linkages between the social, political, and ideological. Modeling change during state formation in Iron Age Denmark requires multiple research strategies. Changes in organization are reflected in transformation of the built landscape: inter-personal and intra-site locational change is revealed through the chemical characterization of anthropogenic soils. To interpret these physical changes on a theoretical level, prehistoric cultural geography and landscape analysis monitor organizational change in political, socioeconomic, and religious landscapes, revealing state unification as well as conflict between central and local authority.

Todd, Lawrence C. (Colorado State): [9] (see Hofman, Jack); [116] (see Hill, Matthew Glenn)

Todea, Nathanial (Navajo Nation Archaeology Department): [67] (see Reed, Paul F.)

Tomka, Steve A. (Prowit and Associates)
[52] Systemic Constraints on Tool Design, Manufacture, and Selection Strategies in a Transhumant Agro-Pastoral Context
This study provides an ethnoarchaeological example of the manner in which reliability and maintainability are manipulated in the manufacture and selection of artifacts used under different time-stress conditions. Tools used within contexts of substantial stress have high manufacture-technical and raw material reliability but low repair potential. Tools used within relatively less stressed contexts have lower manufacture-technical and raw material reliability but high repair potential. These generalizations, and tool categories that represent exceptions to them, exemplify the role of these design components in the organization of technology.

Tomkinson, Charles (Arizona)
[70] Classifying Clue Points: A Study in Metric Variability
Plotted projectile points mark the first peoples to have (unequivocally) occupied the Americas.
However the variability in this hemispheric-wide tradition has yet to be comprehensively surveyed and the lack of systematic classification makes problematic the interpretation of many finds. One means of addressing these problems is demonstrated: morphological comparisons based on the eigenshape analysis of video-based digitized outlines. The method follows cutting-edge work in evolutionary biology. This paper's sample of 100 projectile points is drawn from sites across the continental U.S. Several different statistical analyses clearly show regional groupings, one of which has not previously been documented.

**Toom, Dennis L. (North Dakota)**

[110] Thirty Years After: The Post-Damming Condition and Research Potential of Middle Missouri Village Sites

It has been 30 years since the Missouri River dams in the Dakotas were built by the U.S. Army Corps of Engineers. The construction and operation of these dams and their reservoirs has impacted hundreds of important archaeological sites, particularly earthenlobe village sites, in that region along the Missouri River Plains known as the Middle Missouri subarea. This paper examines the post-damming condition of Middle Missouri village sites. While many sites were essentially destroyed, others remain more or less intact and preserve significant research potential, but many of the remaining sites continue to be degraded by erosion.

**Toplyn, Michael (Harvard): [68] (see Landon, David B.)**

[99] Huarapec Pottery in the Moquegua Valley—Toward Defining a Formative Culture in the South Central Andes

The 1994 survey in the Middle Moquegua Valley yielded new data about the little known Formative culture in this region, known as Huarapec. In order to explicate the development of Huarapec culture and its interaction with other cultures, a fine-grained chronology and reliable evidence about the association of material cultural elements are necessary, and an intensive study of Huarapec pottery is indispensable. Although Huarapec pottery was previously classified into three types, new variations within these three types, and new types have been identified, and future analyses.

**Toumanou, Michael K. (Davison): [31] (see Yerkes, Richard W.)**

[52] Tourtellot, Gair (Boston) and John Ross (Pittsburgh)

[52] More Hills, More Glory: Sampling Settlement at La Milpa, Belize

Randomly scattered survey blocks ameliorate centric bias and efficiently recover a sample from 18 sq. km. of intermediate settlement space on rugged terrain. Test excavations indicate a dense Late/Teotihuacan Classic occupation, whose socioeconomic characteristics will be presented. New types and assemblages of exotic stony mounds absent from the site center may be products of vast programs of rural lithic acquisition and agrotechnical landscape development.

**Towner, Ronald H. (Laboratory of Tree-Ring Research) and Byron Johnson (WCRM)**


San Rafael Canyon in the Navajo homeland of Dinéh in northwestern New Mexico was the location of an intensive 18th century Navajo occupation. Two large pueblos located in the canyon were the focal points of Navajo settlement at different times. An intensive survey of a portion of the canyon revealed a variety of site types, including several previously unknown types. A settlement model derived from historically documented Navajo settlements is used to interpret the archaeological and dendrochronological data from the area. Results suggest we must refine our views of 18th century Navajo settlement to include aspects of kinship and mobility.

**Tringham, Ruth (California-Berkeley)**

[117] Transformations to Agriculture: Models, Data, and Interpretations from Southeast Europe

The transition to agriculture in southeast Europe has been a crucial topic of research at an international scale for thirty years, not least because the Balkan peninsula has been regarded as a "bridge" for the diffusion of plants, animals, techniques, and people between Europe and the Near East. This paper explores the current research questions, the changing strategies of data collection and changing interpretations of the data on the transformation to agriculture in southeast Europe in the light of recent events and research in Europe as a whole.

**Trocchi, Ruth (Florida)**


Ethnohistoric literature on Southeastern and Caribbean Native American societies reveals that women chiefs have been present since the time of Columbus and wield considerable power at every level of political complexity from hamlets to paramount chiefdoms. However, few studies of chiefdoms have addressed how women achieve power or examined whether women's chiefly power and authority differ from men's. Considered anomalies, women chiefs are ignored. The cultural blunders responsible for this lack of research are rooted in the western mindset of 'powerless women': women chiefs are not considered legitimate participants in indigenous political systems.

**Trubitt, Mary Beth D. (Northwestern)**

[20] Marine Shell Ornament Production at Cahokia

Marine shell ornaments, mostly beads, are found in quantities at Cahokia and occasionally at smaller Mississippian sites in the American Bottom. This paper explores shell ornament production at Cahokia, focusing on the tools and techniques used to manufacture shell beads. Description of the shell-working tool kit is necessary for identifying possible beadmaking activity areas and production debris, and evaluating the social and economic contexts of production.

**Trucan, James (Washington)**

[22] Provenance as a Measure of Transport Cost: A Study of Steatite Vessel Manufacture Using Evolutionary Theory

While steatite vessel manufacture appears to have been widespread in eastern North America between 1500 BC and 1000 BC, previous studies have not addressed this spatial and temporal distribution. Chemical and mineralogical variability of steatite sources and vessels establishes artifact provenance (based on compositional similarity) and thereby distance between artifact locations and sources. Transport cost is incorporated into a larger study of steatite vessel manufacture from an evolutionary perspective.

**Turkew, Paula (SUNY-Buffalo)**

[21] Environmental Unpredictability and Subsistence at La Quemada, Zacatecas, Mexico

Following Armáflia's (1964) hypothesis that climatic changes promoted initial settlement and subsequent abandonment of northernmost Mexico, this paper examines the relationship of environmental unpredictability and high dependency on maize as a driving force in the occupational history of northernmost Mexico. The site of La Quemada, Zacatecas, Mexico is used as a test case of this general process. Modern climatic data are used to demonstrate environmental unpredictability, and paleoethnobotanical data establish the connection between risk of subsistence failure and the decline of La Quemada. It is suggested that a subsistence system imported from elsewhere in Mesoamerican was ill-suited to local environmental conditions.

**Turner, Margaret H. (Massachusetts College of Art)**

[30] Shell Ornament Production at Teotihuacan, Mexico

Exotic shell, shell ornaments and waste from ornament production were recovered through surface collection and test excavation at Teotihuacan, Mexico by personnel of the Teotihuacan Mapping Project. Recent analysis of this material addresses questions about the scale of production and the location and specialization of specific workshop types within the city. The evidence suggests that certain shell species were used by craftsmen who also were lapidaries, while other species, primarily Spondylus, may have been reserved for use by craftsmen who worked exclusively in shell.

**Tykot, Robert H. (Harvard)**

[76] Changing Patterns of Settlement, Subsistence, and Social Interaction in Neolithic Sardinia

Recent research on island biogeography, settlement and subsistence strategies, and lithic resource exploitation indicates that neolithic lifeways in Sardinia were neither simple nor homogeneous. The apparent two-phase adoption of the "neolithic package" was paralleled by shifts in settlement patterns and exchange networks. Regionally diverse socio-religious areas of this region were early platforms and elaborately decorated hypogeum tombs also appear in the Late Neolithic, while grave goods suggest the beginnings of social differentiation. It is argued that changes in settlement and subsistence led to differential access to territorial resources, resulting in new mechanisms of exchange, and new systems of social dynamics.

**Tykot, Robert H., and Karen Harithorn (both, Harvard)**

[41] The Source of Obsidian: Neolithic Exchange in the Western Mediterranean

The provenance of several hundred obsidian artifacts from neolithic sites in Corsica has been determined by wavelength-dispersive spectrometry using the electron microprobe. The analysis of 210 samples from nine stratigraphic levels at Basi (Serra-di-Ferro) represents the largest study every of obsidian exploitation in any one site in the western Mediterranean. It is particularly important for assessing chronological variation in obsidian exploitation. Our results contradict interpretations based
people. By 1875 the population of Shermantown consisted of a single family. The University of Nevada, Reno, field school mapped and inventoried the town and developed a historical context for the site. Using the assemblage of several Shermantown house lots, and exploratory fural analysis is conducted to access research potential in the areas of diet and foodways, the meat market and indicators of consumerism.

Van der Hoek, Richard (Illinois-Urbana-Champaign)

[70] The View from Overlook Sites in Eastern Berlinga: Site Location Factors in Late Pleistocene Alaska

Less than a dozen archeological sites in Alaska, the majority located in valleys on the north side of the Alaska Range, contain cultural materials with dates greater than 11,000 years B.P. These sites can be classified as "overlook" sites, usually located on the north sides of streams or rivers with views to the south. Other important intervisible variables include exposure to wind, height above surrounding ground, and composition of lithic and faunal assemblages. These and other environmental and cultural data suggest aspects of past lifeways that will constitute the basis of further testing in the study of northern Late Pleistocene subsistence and settlement.

Vandiver, Pamela B. (Smithsonian) [10] (see Sober, Olyo) [58] (see Hendrickson, Robert C.)

Vargas-Arenas, Irida

[63] La Antigua wega Soschi: Una Arqueologica Alternativa al Paradigma Anglo-Americano

Se plantea en esta ponencia como los paradigmas angloamericanos en el Caribe han contribuido profundizar la separación entre las sociedades del pasado y las del presente, impidiendo la gestación de verdaderas conciencias históricas, bases imprescindibles para la consolidación de los Estados Nacionales en la Región. Por otra parte, se plantea como la Arqueología Soschi que hemos venido practicando un grupo de arqueólogos latinoamericanos constituye una alternativa válida ante esta situación, implicando un compromiso por parte de los arqueólogos no solo de carácter académico sino también fundamental para la comprensión de nuestro pasado y de nuestra cultura. Se enfatiza la papel de la arqueología comprometida socialmente en la búsqueda de las causas de las crisis culturales-económicas de la Región Caribe, y el papel fundamental que tiene la educación en tal proceso.

Varien, Mark (Crow Canyon Archaeological Center) [118] Sedection and Mobility in Agricultural and Horticultural Societies: Beyond Ecological Determinism

Studies of sedentism and mobility in the American Southwest have increasingly focused on a framework of factors unique from hunter-gatherer research. The studies examine human behavior within an annual round and stress the ecological determinants of mobility. In this paper, I argue that the social and temporal scales of hunter-gatherer studies are inadequate for understanding the sedentism and mobility of societies with horticultural and agricultural economies. To begin, I develop the method and theory for studying mobility strategies in horticultural and agricultural societies. I examine the residential movement of households and communities within the Mesa Verde region between A.D. 600 and 1300. [79] (see Potter, James M.)

Verhagen, Inez (Vanderbilt) [125] (see Fowler, William R.)

Vivian, R. Gwinn (Arizona State Museum) [93] Agricultural Strategies of the Chacoan Anasazi

Chacoan culture evolved in the San Juan Basin, one of the most arid zones occupied by the Anasazi. Most agricultural strategies employed within the Basin were common to other Anasazi areas. In contrast, specialized techniques for crop watering, erosion control, and nutrient replacement typified some farming systems within Chaco Canyon. Some system features were adapted to locales adjacent to the canyon, but there is no evidence for more distant deployment of the features within the Basin. The physical topography and hydrology may account for this variability, social factors were more critical.

Voigt, Mary M. (William and Mary) [64] Çatal Hüyük in Context: Ritual at Early Neolithic sites in Central and Eastern Turkey

A critical step in any study of prehistoric religious systems is the reconstruction of specific human activities associated with supernatural beings (i.e., 'rituals'). Among the artifacts consistently linked to religious contexts are anthropologically documented societies. In the case of Çatal Hüyük, Ucko has suggested a classification system for ethnographic figures based on function (ideology and associated behavior). These classes can be directly linked to the archaeological record through patterns of distribution and deposition, as well as morphological attributes. This paper uses forms, wear, and location to reconstruct ritual activities at 8th-7th millennium sites in Turkey.
Volmar, Michael (Massachusetts-Amherst)
[102] Pine Hill Micromorphology Project
The project aims to employ soil micromorphological analysis to archaeological questions concerning subsite feature interpretation. Extent discussions on pit feature relevance, interpretation, and excavation are presented and discussed. Field research from Pine Hill in the middle Connecticut River Valley and the results of the laboratory analysis are presented. The discussion focuses mainly on problems associated with pit feature interpretation. The results will demonstrate the applicability of soil micromorphology to archaeological interpretation, and strengthen theoretical arguments in archaeology related to cultural complexity and reasoning by analogy.

Voorhees, Barbara (Colorado)
[90] Stalking the Coastal Archaic: A Late Archaic Coastal Plain Site on the Sacoosco Seaboard
Voecla Limon, a buried site exposed in a river bank in the upper gradient of the south Pacific coastal plain of Mexico, was investigated in 1994. Excavations revealed a dense concentration of waterworn and fire-cracked rocks, as well as some stone tools. Most contexts were not preserved but phytolith studies allowed for the identification of some ecological features. The attributes of the site were interpreted as a discard area for a "permanent" settlement, probably a residential base of the late Chavín people who were responsible for the huge shell mound located in the coastal wetlands, downstream from this site.

Voytek, Barbara (California-Berkeley)
[76] Socioeconomic Transition in the Mediterranean: The Case for Regional Diversity
The problem of the relations between mesolithic hunting-gathering populations and those described as neolithic food producers is a complicated one. Among the reasons for the complications are environmental differences among geographic regions which impact upon the breakdown of mesolithic, and the development of neolithic, economies. Because of these differences, attempts to synthesize the process of neolithization over a large area produce, in this paper, therefore, one region is examined in detail, the Northern Adriatic. Comparisons are derived with other regions of Northern Italy insofar as they help elucidate the variability of the socioeconomic transition from hunting-gathering to food production in the Mediterranean between the eight and sixth millennia B.C.

Wagner, Erik (IVIC, Venezuela)
[127] Gerardo Reichel-Dolmatoff and Venezuelan Archaeology: 50 Years of Creativity
In this paper, I would like to recreate Reichel-Dolmatoff's direct and indirect inspiration on the archaeologists who have worked in Venezuela during the last five decades. In recent years, his influence was perhaps more strongly felt in lowland tropical areas due to his pioneering research in coastal Colombia, where he showed that this area was a major center for population movements, agricultural evolution and ceramic development. Nevertheless, equally essential was his 1954 paper "A Preliminary Study of Space and Time Perspective in Northern Colombia" which in part enabled Gallagher in his La Peña monograph (1976) to offer his valuable sequence of cultural development for the Maracaibo Basin, Sanoja's research south of Lake Maracaibo and Wagner's work in the Andes and Lake Maracaibo. More recently, Arvelo (1987) and Oliver (1989) proposed new models for cultural development in northwestern Venezuela, again inspired in part by Reichel.

Wake, Thomas A. (California-Berkeley)
[124] Bone Tools and Tool Production at Colony Ross: Persistence of Prehistoric Technology at a European Trading Colony
Bone tools played an integral role in the success of Russian-American Company marine mammal hunting operations in California during the early nineteenth century. The company's base in California was Colony Ross, in Sonoma County. The colony was populated by three main groups of Native Americans and Californians. The presence and continued production of prehistoric Alaskan tool types at Ross indicates the persistence of aspects of traditional Alaskan worldview in California. Analysis of bone tools and production debris from Ross provides insight regarding the ethnicity of the manufacturers and the importance of traditional technology at a European colony.

Walker, Debra S. (Florida International)
[94] New Research at Cerros, Belize
Recent archaeological research at Cerros, Belize is illustrative of the collaborative efforts of researchers, local residents and government officials to implement policies which preserve renewable resources and incorporate them into the local economy. At Cerros, we are seeking archaeological information which will inform nearby villagers as well as international visitors. We also seek long-term site maintenance solutions which are low cost and easily managed. The unique

Walker, Ian J. (see Desloge, Joseph R.)
[71] Late Formative site offers opportunities to researchers and economists alike to build a sustainable future for Belize's past glories.

Walker, John H. (Pennsylvania)
[90] A Prehistoric Usur Burial from the Llanos de Moxos, Bolivia
The earliest European travelers in the Amazon basin described riverbanks with human settlement. Along the upper Amazonian rivers of the Llanos de Moxos in eastern Bolivia, survey and excavations in the summer of 1994 revealed a system of raised fields, canals and causeways, in addition to occupation sites. The first controlled excavation of an inhumation burial in this region is presented, in relation to this context of a constructed agricultural landscape.

Walker, William H., and Vincent L. LaMotta (Arizona)
[85] Life Histories as Units of Analysis: Scaling Explanations for Behavioral Variability and Change
Behavioral ecologists play prominent analytical roles in the biological, physical, and social sciences; this paper demonstrates the utility of this approach for expanding the range of archaeological analyses of human behavior. Defining object life histories allows one to explore diverse scales of behavioral variability that frame explanations for behavioral change. Major theoretical differences among contemporary programs, including processual, behavioral, evolutionary, and Marxist, may derive largely from the different scales of life history analysis through which these programs approach the study of the archaeological record.

Wallert, Arie (Getty Conservation Institute)
[32] (see Boynton, Ron)

Wallner, Stanley L., Sharon Misus, and Roberta McElvane (all, Mohegan State)
Two seasons of settlement investigation along a three km transect in the Rio Bravo floodplain have revealed a wetland-associated occupation zone south of Don Hombres where middle- to terminal Late Classic population expansion, occupational concentration, and terrac cimination turned a sparsely settled region into an area of dense habitation. This settlement shift was a part of a regional pattern of population expansion, intensification of land use, increased herd modification, and changing settlement type at the close of the Classic period.

Wallis, Debbie, and John Cable (both, New South Associates)
[120] Between a Rock and a Hard Place: The Analysis of Lithic Assemblages from the North Island of New Zealand
In 1993 New South Associates excavated three multicomponent sites in the Brassington Valley in northern Georgia. Funding for the Mountain Park Project came from the Georgia Department of Natural Resources. Fifteen separate loci were identified ranging in age from Early Archaic to Late Mississippian, in addition to a historic Cherokee component. Almost 250,000 lithic artifacts have been recorded. The lithic analysis provides the basis for a discussion of local cultural chronology and its relationship to surrounding areas; regional interaction and cultural relations; and diachronic changes in lithic technology, site usage, and raw material selection and preferences.

Walters, Rachel, and Jeff Kowalski (both, Northern Illinois)
[114] The Murals of Mul-Chic as Possible Evidence for Maya State Formation in the Pueblan Region, Yucatan
The murals of Mul-Chic, Yucatan feature multi-figure scenes including a procession of rain god impersonators and a dynamic and graphically violent battle scene. We discuss these images as evidence for the development of the late Pueblan phase economy, and the process of economic specialization of the region of Mul-Chic. The ceramic and iconographic evidence support the idea that the Maya state formed in alliance with factions of the town of Mul-Chic and nearby settlements. The ceramic and iconographic evidence suggests that the state of Mul-Chic formed the basis for the later Maya city of the early 9th century.

Walther, Dorothy N. (see Walker, Gregory F.)
[14] (see Walther, Gregory F.)

Walther, Gregory F. (Yale) and Dorothy N. Walther
[14] Technological Change and Subsistence Continuity in a Southern Plains Ecotone: The Hokahaise Rock Shelter
The Hokahaise Rock Shelter is located in the Cross Timbers region of the Southern Plains, between the prairies to the west and the oak-hickory forests to the east. This ecotone setting contains a
We explore, in retrospect and prospect, some ramifications of that research orientation and trajectory.

Watermaker, Patricia (Virginia) [40] Untangling Perceptions of Specialists and Consumers: A Case Study from Ancient Mesopotamia

Warburton, Miranda (Navajo Nation Archaeology Department); [35] (see Powell, Shirley)

Warburton, Miranda, and Phil R. Geib (both, Navajo Nation Archaeology Department) [67] Excavations Within the Navajo Mountain Road Row: Is the Cup Half-Empty? Definition of the Cup on the landscape served as focal points for suites of activities undertaken by prehistoric people to maintain and perpetuate their physical and social well-being. Arbitrary lines across the prehistorical landscape drawn by modern developers all too often limit our archaeological understanding to an unconnected subset of the entire suite of activities represented. For certain types of sites of certain time periods, there is no context within which to interpret the arbitrary sites of archaeological remains recovered within a ROW. These issues are examined using recent excavation findings within the ROW for the Navajo Mountain Road.

Ware, John (Museum of New Mexico) [35] Multidisciplinary Investigations of Late Prehistoric Agricultural Field Systems in Northern New Mexico

Recent archaeological investigations in the lower Chama and Ojo Caliente Valleys of northern New Mexico have documented extensive direct rainfall agricultural systems associated with a number of late prehistoric Pueblo Indian communities. One of the most common field types consists of a rectangular cobble grid filled with pebble-sized fines. Most of these field systems are located on high gravel terraces some distance from the nearest permanent water and, in many cases, several miles from the nearest prehistoric community. This paper describes recent multidisciplinary attempts to understand how these systems were constructed and used, what crops were grown, how the land was harvested, and how hydrologic budgets of the field systems were used to manipulate crop productivity, and how construction techniques differed under differing topographic and hydrologic situations.

Watson, Hirokatsu (Terrain Information Engineering) [136] (see Shimada, Izumi)

Watchman, Alan (Datu-Booho Watchman) and Daniel Arsenault (Célad, Laval)

[46] Dating and Analyzing a Pictograph Site in the Far-Eastern Canadian Shield: The Nisula Site (DDeh-1)

The Nisula site studied by our multidisciplinary team is the Easternmost pictograph site known in the Canadian Shield. Anthropomorph, zoomorph, and supernatural figures are identified in the 140 morphs on the glacially polished cliff. The morphs show strong similarities to those depicted on other Boréal Forest sites, perhaps indicating the diffusion of similar religious concepts across a wide area of Northern America. AMS radiocarbon dating of the painted surface at Nisula is currently being undertaken. Archaeological, ethnographic, ethnographical and other types of evidence is presented in considering the physical and cultural context of the pictograph site.

Waters, Michael R. (Texas A & M) [87] Discussant

Waters, Michael R. (Texas A & M), Steven Forman (Ohio State), and James Pierson (Ohio State) [70] Diirg Yurik: A Lower Paleolithic Site in Central Siberia and Its Implications to the Pleistocene Peopling of the Americas

Archaeological investigations by Yuri Muchanov at the Diirg Yurik site on the highest terrace of the Lena River, 125 km south of Yakutsk (62° N latitude) in central Siberia, have revealed a Lower Paleolithic occupation. Muchanov has identified a quarry area with unifacial choppers and flake debris clustered in activity areas around large anvils. Geoarchaeological investigations reveal a complex interaction of alluvial and colluvial deposits over a large area in northwest South Asia. Various field stratigraphy in time and indicate that the cultural horizon is greater than 250,000 years old. Such an early occupation of Siberia has important implications to both Old and New World archaeology.

Watkins, Joe (Bureau of Indian Affairs); [106] Discussant

Watson, Patty Jo (Washington, St. Louis) and Charles L. Redman (Arizona State) [109] The Hilly Flanks and Beyond

The interdisciplinary research pioneered by Robert J. Braidwood in the 1950s was directed toward recovering empirical evidence for the origins of food-producing economies in southwestern Asia.


The region of Lake Baikal, Central Siberia, contains, perhaps, the richest archaeological evidence for Holocene foragers in the entire Subarctic. In the 1950s, A. P. Okladnikov, for many decades the most prominent personality in the history of Soviet Siberian archaeology, presented a model of social evolution of local foragers in which he suggested a gradual transition from matriarchal to patriarchal social relations accompanied by a subsistence change. The model dominated the research on the subject for several decades, and its heritage continues to affect even the most recent work. This paper argues that the model has a large extent an effect of political and ideological pressures of the time when it was devised. It demonstrates how the data were manipulated and attempts to explain why these distortions were perpetuated. It concludes that Western archaeologists, exploring today’s research opportunities in the former Soviet Union with a rejuvenated interest, should be very cautious while studying Soviet archaeological literature in original and especially in translation where many details are deliberately omitted.


Around the second millennium B.C., localized subsistence strategies with different dietary practices shifted to a more integrated and diverse economy. This integrated and diversified economy shifted from one concentrated on the production and exchange of goods. This shift implies that a centralizing, standardized and well-integrated culture was changing into different localized cultural units with varied artificial styles. How do these two seemingly divergent processes interrelate? Some answers may come from analyzing the environmental and subsistence constraints of this area, changes in the pattern of species being exploited, and the impact of humans on their habitat over time.


Archaeologists have long known that llamas and alpacas formed an important part of the polity’s...
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It enables us to view the observed changes in terms of modern understanding of the situational and variable nature of cultural identities.

Wendorf, Fred (Southern Methodist): [67] Discussant

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Wernke, D. Clark (Florida Atlantic): [73] (see Ford, Anabel)

Wesson, Cameron B. (Illinois-Urbana/Champaign), John W. Cottler (Auburn), and Craig T. Sheldon (Auburn-Montgomery)

[129] Distributional Aspects of Settlement Structure Along the Lower Tallapoosa River

Recent research and historical information indicate the presence of a sizable Mississippian population along the Lower Tallapoosa River valley in central Alabama. This study shows that Mississippian sites in the Lower Tallapoosa River valley have a distinct settlement pattern, and that this pattern is quite different from that of the other Mississippian settlements in Alabama. In addition, analysis indicates that the Mississippian settlement pattern identified in this study is simpler in structure, yet distinctive from historic Creek settlement in the same region. This settlement pattern is assessed for implications concerning social organization and polity structure within and between these Mississippian communities.

West, W. R.: [122] Participant

Wheat, Pam (Crown Canyon Archaeological Center)

[91] Process: Archaeology as Scientific Method; Issues and Ethics

Whelan, Mary K., Margaret Neverett, and William Green (all, Iowa)

[33] From Consumption to Production: Reconceptualizing Archaeological Subsistence Analysis

This study analyzes a focus on production; we argue that analysis should begin with consumption since consumption precursors precede and structure productive activities. Consumption decisions can be conceptualized in long, intermediate, and short-term scales. We apply this framework to the analysis of the Gay Farm site (31LA12), an early Late Woodland horticultural village in southern Iowa. Floral and faunal diversity indices and distributional patterns examined in this way provide a more complex model of this community's subsistence economy. It provides a basis for comparisons with predecessor Panama communities. Such work should shed new light on the processes involved in the Middle to Late Woodland transition.

White, Christian (Western Ontario): [12] (see Schwartz, Henry P.)

White, Joyce C. (University of Pennsylvania Museum)

[96] Wet Rice Agriculture: Environment Transformer or Environment Expander?

Cultivation of irrigated rice has long been considered a transformative use of the environment whereby a diverse ecosystem is replaced with a monocrop. While in highland and equatorial tropical environments this may be the case, in subtropical areas exploited by the earliest rice agriculturalists, ethnological research suggests that wet rice cultivators merely expanded areas where wild rice naturally occurred, and forest replacement was minor. This paper reports on research undertaken by the Thailand Palaeoenvironment Project which seeks to examine the environmental conditions into which early rice agriculturalists expanded from about 5,000 years ago, and the impact of these agriculturalists on Thailand's landscape and vegetation.

Whitley, David S.

[17] Art, Myth, and Ritual in the Far West

Anthropological interest in the relationship between art, myth, and ritual has a long history, running from Durkheim through Boas to Levi-Strauss. Archaeological concern, in contrast, has been naive and undeveloped; e.g., human and animal figures in prehistoric art often claimed to be mythic ancestors, with intuitive "historical" said to represent mythic events. Inasmuch as durable art is a primary archaeological expression of ideology and cognition, it follows that archaeologists' consideration of art should be based on a realistic model of the relationships between art, myth, and ritual in different societies. Using ethnographic data from the Far West, I provide a model of these relationships for three different groups, illustrating the variability that may exist among hunter-gatherers.

Wiant, Michael D. (Illinois State Museum) and Charles R. McGimsey (Southern Illinois-Carbondale)

[104] Middle Woodland Building Function in Illinois

This paper presents the results of an analysis of evidence of 29 Middle Woodland (ca. 2050-1800 B.P.) buildings in Illinois. Comparison of building context, architecture, and artifact assemblages indicates functional differences. While the function of most of these buildings can be


Weed, Carol S. (Gray & Pape)

[35] The Brownware Quamquiere East of the Pecos: Ceramic Supernotypes and the Ware/Type/Variant System.

Present classifications for the prehistoric utilitarian ceramics of eastern New Mexico and western Texas and Old Mexico are problematic. Since work by Jelinek and others, some researchers have argued that it is either inappropriate to apply ware or type names or that new varieties are necessary in order to understand parent ware definition or the theoretical underpinnings of the ware/type/variety system. Certain wares, for example, Jornada Brown Ware, have been defined in supernotypes, thus losing their temporal and spatial meaning. An analysis of the extant literature suggests that a solution to this analytical quandary may lie in strict adherence to ware/variety principles.

Weiss, Pamela J. (Montreal)

[90] Preliminary Results from the Excavation of a Jade Cache at the Site of Blue Creek, Orange Walk District, Belize

At the end of the 1994 field season, a jade cache was discovered, which is a common phenomenon at the site. The cache contained 10 jade beads, 2 Jade pendants, and 1 jade pipe, as well as 386 of them situated within a lip-to-lip arrangement. The bead materials recovered include two distinct chert varieties; freshwater and marine shells; stone; coral; and bone beads, and a large cruciform chert eccentric as well as human remains.

Wetwun, Huwun (Institute of Vert. Paleontology and Palaeoanthropology, Beijing): [119] (see Miller-Antonio, Sari)

Welch, James M. (Frontier Archaeology): [103] (see Prentiss, William C.)

Welch, Paul D. (Queens)

[104] Strategies for Control of Craft Production in Chiflados

Elaborate control of craft production in chiflados cannot be explained in terms of economic domination or physical coercion of the producers. Instead, such "control" represents a mutually advantageous match between the interests of the producers and the interests of the elite. Both sets of interests are contained in the range of craft items that would be suitable candidates for such control, suggesting that it may be possible to predict what sorts of craft items will be controlled. Archaeological data from Mississippian chiflados are compared with these predictions.

Welker, Eden, and Douglas R. Parker (both, Colorado)

[107] Corn and More? A Study at Pueblo San Marcos, New Mexico

Motives beyond risk minimization may lie behind agricultural intensification during the Rio Grande Classic period. The authors performed soil sampling and additional ground-truthing of the rich agricultural area surrounding Pueblo San Marcos in New Mexico's Gila River Basin. Unexpectedly, a complex system linking multiple field types and water-control devices was found, implying a high degree of archeological planning. In addition, initial soil chemistry tests suggest a diversification of crops, including modern-day species. This discovery cautions against assuming land was the primary agricultural product and suggests that "cash," not subsistence, crops may have been important at certain towns.

Wells, Peter S. (Minnesota)

[27] Identities, Material Culture, and Change: "Celts" and "Germans" in Late Iron Age Europe

Traditionally, archaeologists have relied heavily on written Greek and Roman sources for study of migration and change in Late Iron Age Europe. Yet the texts and the archaeology rarely coincide. An approach that focuses on material culture as an active agent of ethnic and cultural identification offers a new perspective on migration and shifting identities in this dynamic period.
described as secular, the example from Napoleon Hollow site appears to have had a ritual function. After discussing discriminating variables, we consider implications about Middle Woodland lifeways.

Wicker, Nancy L. (Mankato State) [128] The Women of Birka: Status and Power During the Period of Early Missionary Activity A dearth of female mortuary remains has been noted for much of Scandinavia; however, women’s burials outnumber men’s at the early Viking Age (ca. A.D. 750-900) trading center of Birka in central Sweden. This paper examines mortuary evidence to elucidate the manifestation of status and social organization. Rather than indicating a preponderance of women at Birka, the greater number of women’s graves may represent graves that are easier to identify because of their contents and also may reflect Christian missionary activity. A gendered conversion occurred in Sweden with women serving as mediators between Christian and native ideologies.

Wilhelmsen, Kris H., and Kim D. Kornbacher (both, Washington) [22] Style and Function at the Artifact Scale: A Fundamental Dichotomy Revisited A shared goal of evolutionary archaeologists is understanding how and why properties of populations and environments interact to produce traits conferring greater or lesser fitness. Realizing this goal requires identifying selectively neutral (stochastic) and selectively advantageous (functional) traits. However, a tradition of identification found in common sense has caused confusion among archaeologists regarding the role of these concepts in evolutionary explanation. Style and function are not intrinsic, mutually exclusive properties; rather, they are hypotheses which may be operationalized at the artifact scale using distributional tests in both temporal and spatial dimensions. The process is illustrated using recent data from Ecuador and Missouri.

William, Jerry D. (Northern Arizona), Matthew J. Root (Washington State), Lisa Shifrin (Northern Arizona), and Sarah E. Adler (North Dakota) [70] Folsom Tool Manufacture in the Knife River Flint Quarry Area, North Dakota Evidence from three Folsom sites (32DU955A, 32DU955C, 32DU955D) suggests that flint-knappers staged tool manufacture within the Knife River flint source area. One quarry-workshop site mainly consisted of early stage flake assemblages that few preforms broken during fluting. Most Folsom points and technologically finished. Other camp-workshops contain many preforms broken during fluting, with fewer completed points and early stage preforms. Nonlocal lithic materials also suggest that the sites are not site-linked. The pattern of Folsom knappers discarded broken weapons, gathered stone, and made preforms at one site; the same knappers completed manufacturing/retouching processes at nearby, separate sites.

William, Matthew (Texas-Austin) [92] (see Creel, Darrell)

William, Patrick Ryan (Florida) [90] The Rise of High Elevation Irrigation Agriculture in the South-Central Andean Sierra The appearance of high elevation agricultural systems in the Andes represents a great leap in technology. Construction and maintenance of irrigation systems of this type involves a higher degree of social organization than traditional valley bottom farming. This study employed detailed mapping of terrace systems in the southern Peru Moquegua drainage in order to reconstruct agricultural hydraulic in the Middle Horizon, Late Horizon, and modern era of Andean history. In this paper, social and political organization of the agricultural economy are interpreted for the Wari, Inca/Inca, and modern campones communities through the analysis of hydraulic systems.

Williamson, Dan [7] Excavation Safety Equipment and Archaeology

Wills, John A. K. (Northwestern) [72] Archaeological Surface Collections: A Methodology to Counter Disturbions in the Graphic Illustration of Material Densities which Result from Inter-Collector Biases In 1991, Northwestern University Field School conducted a systematic pedestrian survey on 21,500 square meters of site was probably the western edge of the Zimmerman site (1L1S13) near Utica, Illinois. Material density data were captured in ATLAS/GIS based on the laboratory analysis of collected material. These maps illustrate that graphic representations of surface collections can be distorted by inter-collector biases introduced during surface collections. A methodology which changes the absolute values of materials collected in each grid to relative amounts, such as whether it is above or below each collector’s mean, is suggested to correct such distortions.

Wiltsen, Richard H. (Crow Canyon Archaeological Center) [118] Great Pueblo Period Reservoirs in the Mesa Verde Region Although at least 20 large (25,000-gallon capacity or greater) prehistoric reservoirs are known in the Mesa Verde region, the design, construction, chronological placement, and function of these reservoirs are poorly understood. Excavation of one of these features by Crow Canyon in 1994 allows us to evaluate possible explanations about reservoir construction and use. Other archaeological and cross-cultural ethnographic data support the notion that these reservoirs are public fears that in the last Puebloan occupation of the northern Southwest and that they may be markers of the centers of post-A.D. 1150 communities.

Wilson, Deborah [14] (see Spiess, Arthur E.)

Wilson, Diane (Texas-Austin) [18] Engendering the Mississippian Powers Phase Turner-Cemetery Population The Turner-Cemetery phase, a Middle Mississippian Powers Phase site located in Butler County, Missouri. Of the 81 adults who could be sexed, 55 were female. This paper explores the role of women within the Powers Phase. Burial patterns suggest that women played a central role in a possibly matrilineal Powers Phase village life. Mortuary profiles suggest that females within the Powers Phase had considerable control over reproduction. Females may also have had control over food distribution as indicated by heterogeneous diets, while males had homogenous diets indicated by stable isotope values.

Wilson, Douglas C. (Archaeological Investigations NW) [133] Secondary Refuge Aggregates in the Willamette Valley, Oregon: An Explicitly Refuse-Oriented Approach to the Study of Middle and Late Archaic Period Settlement and Land Use Archaeological sites are structured by and their contents inextricably linked to refuse disposal behavior. Through a strict refuse-oriented approach to archaeological sites, new insights on prehistoric cultures can be made. The identification of the fundamental properties of refuse disposal by the groups who occupied central Oregon provides an analytical framework for the interpretation of regional settlement patterns and common site structure. The identification and secondary aggregation of refuse aggregates in the Willamette Valley suggests customary use of resource procurement areas by prehistoric groups and the emergence of a regional ethnic identity.

Winham, R. Peter, and L. Adrienn Honnus (both, Augustana) [110] Village Sites of the Middle Missouri Subarea A.D. 1000–1887—A National Historic Landmark Thematic Study A thematic study has been completed in support of a Multiple Property National Historic Landmark Nomination of Plains Village sites along the Middle Missouri Subarea in North and South Dakota. This paper provides an overview of the study, including Historic Context Organization and National Historic Landmark Criteria. The paper will focus on the national significance of these sites and review significant research directions. Existing Landmark sites and sites being nominated under this theme study will be illustrated.

Winsborough, Barbara M. (Windsor Consulting) [82] (see Neely, James A.)

Winter, Joseph (New Mexico) [67] Across the Colorado Plateau: Anthropological Studies for the Transwestern Pipeline Expansion Project Large scale archaeological excavations and related mitigation studies do not necessarily have to be restricted to conventional methods. Depending on the project research design and the interests and abilities of the archaeologists working in the project and in the state, tribal, and federal compliance agencies, more comprehensive projects can be designed, negotiated, and carried out. This paper discusses excavations, surveys, ethnology studies, and other research carried out for the Transwestern Pipeline Expansion Project, outside of the pipeline corridor. The overall research design addressed communities, boundaries, and cultural variation across the Colorado Plateau.

Wuthrich, Kate (Bureau of Land Management) [80] Practical Guidance: Integrating Archaeology into Ecosystem Management Archaeologists, cultural resource managers, and professionals in related disciplines are faced with the problem of integrating their areas of knowledge into studies which support ecosystem management and policy making. Relevant issues include defining the types of questions and studies that contribute to an interdisciplinary framework; and communicating information across disciplinary lines.
Development of research tools such as a workbook and/or regional research networks will assist professionals in these tasks.


Wise, Karen (Los Angeles County Museum of Natural History) [89] From Chichén Itzá to Quíoto: Archaic Period Sedimentation and Population Aggregation on the South-Central Andean Coast.

Early Middle Archaic Period (ca. 9000 to 5000 B.P.) settlement patterns on the south-central Andean coast are characterized by small villages, shell middens and other special use sites. Later Archaic Period (after 5000 B.P.) villages are larger, containing substantial habitation and ceremonial sites. The causes for changes in settlement adaptation appear to involve environmental changes and cultural factors such as increasing population, specialization and intensification of fishing. This paper explores the interplay between environmental and cultural factors in the shift from Middle to Late Archaic subsistence and settlement strategies on the south-central Andean coast.

Wobst, H. Martin (Massachusetts-Amherst) [113] Archaeologists and the Culture of Materiality.

Along many dimensions, vernacular archaeological method, in survey, excavation, and analysis, biases culture and culture theory toward those ends of human motion that are the most consumptive, transformative, and destructive. The end of human material production in the archaeological lenslight is only one part of the range of human material production and avoidance of material production. And this varies in its preponderance intra- and interculturally, and cannot be understood without theorizing about (and sampling along) the entire range of human production. The problem and its solutions are exemplified with archaeological case studies from hunter-gatherer contexts.

Welley, Claudia (Vanderbilt): [52] (see Demarest, Arthur)

Wood, W. Raymond (Missouri): [110] Discussant

Woodall, J. Ned (Wake Forest): [129] (see Idol, Bruce)

Woodhouse-Bayer, Katherine (Brown)

Previous scholarship on the contact period of the Kedial archipelago has largely focused on the maritime hunting of conscripted native menfolk in Russian-American Company employment. A review of the available ethnographic literature, as well as recent archaeological research, suggests that, by contrast, women were not only present at artel settlements, but were the mainstays of both traditional and Russian American economies. Preliminary results of excavation at the Igvak artel shed new light on gender relations and economic production in Russian America.

Woodman, P. C. (University College, Cork, Ireland) [117] From Mesolithic to Neolithic: Looking for a Baseline for Britain and Ireland.

The study of the transition from the Mesolithic to the Neolithic in the islands of Britain and Ireland shows the emergence of a series of distinctive regional cultures but the study of how changes took place has been complicated by both the lack of good settlement sites and, perhaps, by a lack of critical evaluation. This paper evaluates, in particular, the chronological evidence and suggests that the archaeologists have often allowed scholars working in related disciplines to dictate the terms of reference in this area of study.

Woodson, Kyle (Texas-Austin) [107] Documenting a Migration: The Goat Hill Site, a Western Anasazi Pueblo in the Safford Valley of Southeastern Arizona.

Recent research involving the Goat Hill Site is reported. The site is a 36-room masonry pueblo, with a D-shaped kiva, located in the Safford Valley of the Gila River in southeastern Arizona. The site is described, and compared and contrasted to contemporaneous sites in Arizona—particularly to sites south of the Mogollon Rim exhibiting traits similar to western Anasazi sites in southeastern Arizona. Evidence is presented suggesting that these sites, including the Goat Hill Site, were occupied by groups who migrated from the western Anasazi (Kayenta and Tusayan) area during the mid- to late 13th century.

Woodward, Michelle R (Texas A & M) [37] Provenance Studies of Surface Obsidian Artifacts from the Northern Ridge of Lake Atitlan, Guatemala.

Neutron Activation Analysis (NAA) has determined the chemical characteristics for one hundred obsidian artifacts collected from surface surveys along the northern shore of Lake Atitlan, Department of Sololá, Guatemala. Sixty-six samples collected and tested from three obsidian sources (El Chayal, Rio Pucayac, and Ixtepeque) provide a comparative database for the artifacts. Results indicate that both Pucayac and Ixtepeque are potential sources for the majority of the obsidian artifacts. The significance of Rio Pucayac obsidian discounts the possibility of a local source while supporting a complex trade network similar to those of the Maya lowlands.


Current theories of Rock Art focus on the limited view that it is a shamanic expression of spiritual or psychological behavior. This lack of theoretical diversity may reflect minimal research using traditional archaeological techniques to evaluate relationships between Rock Art, human activities, and social environments. These techniques have been incorporated into a multidimensional model based on research conducted in southern Oregon. The Tired Dam locality contains rock art and other archaeological evidence, and was excavated to evaluate model predictions. Findings suggest that utilization was not related to shamanic practices, but rather to everyday subsistence activities.

Wren, Linnea H. (Gustavus Adolphus) and Lynn Foster [114] Ritual Dance at Chichen Itza: Cultural Continuity and Innovation in the Northern Maya Lowlands.

This paper will examine the representation of dance rituals at the northern lowland site of Chichen Itza. It will be argued that the dance was an important means for cultural preservation of traditional cosmological beliefs. At the same time, it will be proposed that the dance was also a crucial site for cultural experimentation. This experimentation included the roles of women, the impact of military organization, and the patterns of rulership. Finally, this paper will suggest that the representation of the dance, including those of the North Temple, Mercado and Lower Temple of the Jaguar, served as visual templates for the abstract concepts of polity and cosmology on which Chichen Itza was based.

Wright, Henry T. (Michigan) and Donald B. Simons (Michigan Archaeological Society) [36] Colonizing the Central Great Lakes: Implications of Gaineys and Butler Assemblage Variability.

In the heart of the central Great Lakes region, a detailed fluted point survey and the excavation of two large sites—the Gaineys and Butler sites—dated between 11,000 B.P. and 10,500 B.P., provides a basis for understanding the Great Lakes region. The assemblage variability of the sites, distributions, and regional distributions can be used to develop contextual models and to understand the nature of cultural change and diversity. We conclude by outlining current studies contributing to a better understanding of such basic areas as dating, activity organization, and the nature of cultural change.


Pollen studies from Spain to Turkey and Iran indicate that the climate changed from steppe to woodland around 11,000 years ago, as the Westerlies returned to the north following the ice sheet retreat and as the Subtropical High Pressure Belt expanded, bringing the summer droughts that favored the expansion of annual plants such as wild cereals and grains. Ground disturbance near Natufian settlements may have provided the habitats particularly favorable for annual plants, and their domestication could follow. A Younger Dryas climatic reversal is not necessary to explain the cultural change, and pollen evidence for it in the Near East is weak.

Wright, Lori E. (McMaster): [68] (see Burton, James)


Plants figure prominently in the economic, domestic, religious and symbolic life of Andean cultures. Their study is key to understanding past cultural dynamics. This talk presents paleoethnobotanical analyses of plant remains from excavations at Tiwanaku, Bolivia. By studying the ways plants are selected, prepared, and disposed of, and the differences in these processes among different sectors of the site (ritual contexts, "palaces," domestic structures of varying status) across the critical
period spanning the expansion and consolidation of the Tiwanaku polity, we can gain insight into the maintenance and negotiation of social difference and social control in this early state.

Wright, Rita (New York) [112] Knowledge and Choice, Cultural and Practical Reasons

The emphasis on social agency and cultural logic in studies of technology represents a welcome change from the systems centered, adaptive approach. There are numerous convincing arguments from both ancient and modern examples that leave little doubt that technology is a social construction. But social constructions have their practical side and there may be disjunctions between cultural reasons and practical ones, since cultures are made up of heterogeneous groups. Therefore, the question of whose interests technologies serve should not be neglected. The technology of water related structures at urban Harappan sites is discussed in this context.

Wurst, Loukhn (Syracuse) [113] A Method for Our Madness? Method and Theory in Radical Archaeology

Dissuasion with positivist science has led many archaeologists to the idea of radical theory. Some have argued that the goals of radical archaeology are stymied by the lack of explicit archaeological method. This implies that there is plenty of radical theory, but no way to implement it. I will argue that we conceive of method and theory in terms of a false dichotomy, and that this structure the way we approach the discipline. Archaeology encompasses the production of very different kinds of knowledge, both describing and explaining, each of which involve fundamentally different "methods."

Xingiang, Shi (Cultural Relics Management Committee, Guizhou Province, China) [119] (see Miller-Antonio, Sari)

Yaeger, Jason (Pennsylvania) and Lisa Lecount (California-Los Angeles) [64] Social Heterogeneity and Political Integration in a Terminal Classic Maya Community: Ongoing Research at San Lorenzo, Belize Site

Survey and excavation at San Lorenzo, an outlier community of Xunantunich, demonstrate the vitality of the Terminal Classic population of the upper Belize valley. Variation between domestic groups in both scale and layout indicates a heterogeneous community. Likewise, differences in the presence and quantity of exotic goods, as well as local architectural styles, suggest household-level inequalities in both wealth and social links to Xunantunich, the regional political and ritual center. In a more detailed examination of the distribution of ceramic shapes and forms, the authors discuss ritual ties to Xunantunich that may have contributed to local political integration.

Yarborough, Linda Finn (Wisconsin-Madison) [100] Prehistoric Use of Rockshelters in Prince William Sound, Alaska

Prince William Sound is one of only a few known locations in Alaska where rockshelters and caves contain evidence of past cultural activities. Their use for deposition of mumified human remains in early historic times has been recognized by archaeologists since the nineteenth century. A test excavation in 1953 in one rockshelter indicated that it had been inhabited during prehistoric times, but no further investigations at such sites were accomplished until 1993 and 1994. Preliminary results from this recent work provides new insights into the place of rockshelters in prehistoric settlement and subsistence patterns in the Alutiiq region.

Yeatts, Dale J. (Stanford) [32] (see Blom, Deborah E.)

Yeatts, Michael [42] (see Dongoske, Kurt)

Yerkes, Richard W. (Ohio State), Michael K. Tounasou (Davidson), and P. Nick Kardulas (Kenyon) [31] Survey and Excavation in Central Cyprus, the Athenion Archaeological Project 1994-1994 investigations at Athenion-Maullosa Cypris included remote sensing and balloon photography at the Archive-Ottoman site. Excavations focused on a Venetian industrial structure, Archic-Hellenistic Sanctuary, and Hellenistic-Roman rock-cut tomb. Survey recorded 50 sites ranging from Neolithic and Roman to Byzantine. The area of rock-cut tombs, the recent mad-hatters, the absence of cultural/environmental data are being entered into a GIS data base. Settlement analyses reveal visits to certain areas 5000-8000 B.P., followed by sanctuary and tomb building 2500 years later, with the establishment of nucleated settlements during Roman times (1700 B.P.) that continue through the Ottoman period.

Yeatts, Michael [42] (see Dongoske, Kurt)

Yeatts, Dale J. (Stanford) [32] (see Blom, Deborah E.)

Yeatts, Michael [42] (see Dongoske, Kurt)

Young, D. Craig (Nevada-Reno) [112] Landscape Change and Archaeology in Warner Valley, Oregon

The prehistoric landscape and archaeological record of Warner Valley, Oregon, has been subjected to varying rates of geomorphic process. Landscape alteration has occurred at three distinct rates since the late Pleistocene. The final stage of pluvial Lake Warner/Coleman. The initial, high rates, and subsequent productivity of the present lake/marsh system; the intermediate, more likely, producing a more stable landscape; the late landscape, with a higher rate of change and the present landscape. Early archaeological contexts may have been subject to significant change over time, while later contexts have potential for being intact. Recognition of these differences is important for understanding the character and potential of the local archaeological record.

Young, Phillip A. (National Park Service-Resources Protection Unit) [29] Money, Drugs, and Art

Mexico has some of the strongest cultural resource protection laws in the world. Despite signing the UNESCO treaty over twenty years ago, recent investigations indicate that Mexican exportation of looting driven by collector interest in Precolumbian artifacts and market values ahead archaeological zones are experiencing reduced looting activity because of decreased demand and wholesale removal of material cultural has "left nothing to loot." Authorities continue to combat looting and drug enforcement efforts toward drugs, money, laundering, and weapons, over looting and antiquities. Can/Should that be turned around?

Zalbert, Victor (Petropavlovsk Pedagogical Institute, Kazakhstan) [77] (see Olsen, Richard F.)

Zaschuk, L. Anthony [33] Floral Resource Selection and Depositional Patternning at the Wever Site [111]

Analyses of floral material has been completed from the first year's excavation in [111] a 700-year-old Ocmu village near Burlington, Iowa. Statistical analysis from 40 features shows numerous two-way associations of taxa and two-way significant association at the 0.01 level. These suggest the consistent selection of specific floral macrofossils. The two varieties of corn were grown, one 8-rowed, one 12-rowed. Statistical analysis of the presence of a third variety, Maygrains, present in nearby Woodland context distinct Ocmu suite of native cultivars.

Zeder, Melinda A. (Smithsonian Institution) [109] (see Clyborne, Naomi E.)

Zeder, James N. (Illinois-Urban/Champaign) [127] (see Stahl, Peter W.)

Zeldovich, V. Z. (Vladimir): [4] (see Bronfenbrenner, Erik)
Zeidler, James A. (Illinois/US Army, CERL) and Harry Miller (US Army, CERL) [72] ProBeCorder: Pen-Based Computing for Field Recovery of Subsurface Testing Data Systematic subsurface testing procedures are an increasingly necessary solution to the dual problems of finding and assessing deeply buried or otherwise obscured archaeological sites, yet they are extremely labor intensive and costly. ProBeCorder is a pen-based computer module designed to maximize the logistical efficiency of subsurface testing by automating the routine collection, integration, and storage of probe data in the field. It operates within commercially available data collection software having GIS/GPS display capability. Five basic dialogue boxes are employed to record locational references, sediment profiles, and artifact/feature content of each probe within a user-defined survey unit and sampling geometry.

Zhao, Zhijun (Missouri), Deborah M. Peersall (Missouri), and Richard S. MacNeish (Andover Foundation for Archaeological Research) [131] Phytolith Evidence for Early Rice in Southern China Phytoliths have the potential for providing significant archaeological information. Recent research at the MU Lab has indicated that Oryza contributes phytolith types that are genus-specific. One type can be used to distinguish between domestic rice and wild rice species. This study reports on the occurrence of phytoliths relevant to the presence of rice in soil samples collected from three early Neolithic sites in middle Yangtze River area, southern China, which are the Xiangdengdong site, the Wangdong site, the and the Pugushan site. The results of this phytolith study are very encouraging for studying the origin of rice, as many archaeological sites in Southern Asia have poor preservation of other botanical materials.

Zilhão, João (Faculdade de Letras de Lisboa) [117] The Transition to Agriculture in the Iberian Peninsula In Mediterranean Spain and South Central Portugal the transition to agriculture is signaled by the appearance in the archaeological record of new items of material culture (pottery, polished stone axes, bone tools) associated with domesticates (cereal and ovicaprids). At the resolution provided by the radiocarbon timescale, this is a punctuated process, beginning around 6800 B.P. in the whole region and related to the establishment of agricultural colonies in areas marginally used by hunter-gatherers. In Cantabrian Spain, the transition begins ca. 1,000 radiocarbon years later and is probably related with an adoption of the new economic system by the local populations.

Zoubek, Tom (Yale) [90] Results of the First Field Season at the Formative Site of Huaca El Gallo/Huaca La Gallina, Virú Valley, Peru The objectives of the first field season at Huaca El Gallo Huaca La Gallina. Virú Valley, Peru were to: 1) Generate a map which both defined the site and recorded all surviving architectural features. 2) Date the site by use of stratigraphy, ceramics and radiocarbon. 3) Excavate domestic structures and burials. 4) Investigate non-monumental structures of possible ceremonial function. While absolute dates are still lacking the Formative nature of the occupation has been established by both ceramic information and artifactual evidence, including the recovery of a Formative monolith comparable to that of Pampa de las Llamas-Moxohe in Casma.

Zvelebil, Marek (University of Sheffield) [117] The Transition to Agriculture in Eastern Europe This contribution outlines the process of the transition to agriculture in eastern Europe (an area roughly within the European borders of the former Soviet Union). Geographically, emphasis will be placed on the adoption of agriculture in the Ukraine and the East Baltic countries; topically, the transition is viewed as a process of interaction between the immigrant farming communities or communities which have recently adopted farming (depending on the region) and the hunter-gatherers, occurring in a structured context of the agricultural frontier. The ambiguity of material culture, and the importance of historical contingency and of anthropological models are stressed.