Program and Abstracts

Society for American Archaeology
THIRTY-NINTH ANNUAL MEETING

Washington, D.C. 2, 3, 4 May 1974
Thirty-Ninth Annual Meeting
SOCIETY FOR AMERICAN ARCHAEOLOGY

Program Chairman: William Fitzhugh
Program Committee: James Adovasio, Alison Brooks, Robert Evans (local arrangements), Robert Stuckenrath, John Terrell, John Yellen

OFFICERS
OF THE SOCIETY FOR AMERICAN ARCHAEOLOGY

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GENERAL INFORMATION

Registration A registration desk will be located in the Promenade on the hotel's first floor from 4 p.m. to 9 p.m. on Wednesday, 8 a.m. to 4 p.m. on Thursday and Friday, and 8 a.m. to noon on Saturday. Registration, which includes a copy of the Program and Abstracts, is required for attendance at all sessions.

Advance Registration Members who pre-registered by 10 April should claim their badges and programs at the ADVANCE registration desk in the Promenade.

Abstracts Abstracts of papers presented at this meeting are included in the Program. Additional copies are available for $1.50 per copy at the Membership Services Desk in the Promenade, or may be ordered prepaid from the SAA, 1703 New Hampshire Ave, NW, Washington, DC, 20009.

Membership Services and Publications A desk will be maintained from 4 p.m. to 9 p.m. on Wednesday, 8 a.m. to 4 p.m. on Thursday and Friday, and 8 a.m. to noon on Saturday in the Promenade for those who wish to purchase publications or enroll in the Society.

Placement Service A placement service, located in the Virginia Room, will be open from 4 p.m. to 9 p.m. on Thursday through Saturday. Message forms will be provided and assigned box numbers must be used for the message center. Your comments and suggestions for future placement service activity are welcome.

Business Meeting The Society's annual business meeting will be held at 5:30 p.m. on Friday in the State-East Room.

Open House The Promenade will be the scene of an open reception (cash bar), to which everyone is invited, on Thursday from 5 p.m. to 8:30 p.m.

New Member Reception A reception for new members and for those attending their first meeting, hosted by the officers of the Society, will take place on Friday at 7:30 p.m. in the Pennsylvania Room.

Luncheons Tickets for Table Talk, which will be held at 12:15 p.m. on Friday at the El Bodegon Restaurant, 1637 R Street, NW, may be purchased at the advance registration desk. The restaurant is located 9 short blocks from the Mayflower and can be reached by taxi or by walking north on 17th St. to R St. Allow 15 to 20 minutes if you walk.

Convention Office Members of the Program Committee will be available in the Potomac Room, Any problems or special requests during the meeting should be reported to the committee office.

Message Center A self-service message center will be located in the Promenade next to the local information desk. This center should not be used for messages pertaining to the placement service.

Exhibits Publisher's exhibits will be on display in the Cabinet Room from 4 p.m. to 9 p.m. on Wednesday, 10 a.m. to 6 p.m. Thursday and Friday, and 9 a.m. to noon on Saturday. Participating exhibitors, as the Program went to press, included Academic Press Inc, American University Press Services Inc., University of Chicago Press, W. H. Freeman and Company, Peabody Museum of Archaeology and Ethnology, and the University of Texas Press.

Cooperative Child Care Service Parents interested in using and participating in a cooperative day care service should visit the District Room which has been equipped for that purpose. The room will be open from 4 p.m. to midnight on Wednesday, and from 8 a.m. to midnight Thursday through Saturday.

Lounge Capital B has been set aside as an informal meeting place from 4 p.m. to midnight Wednesday, and from 8 a.m. to midnight Thursday through Saturday.

Tours Tours of the Smithsonian Institution's Analytical and Conservation Laboratories will be arranged for those interested. Inquire at the local information desk in the Promenade for details.

Symposia and Session Chairmen Please maintain the established schedule scrupulously. Note the use of the blackboard for listing speakers; do not collapse sessions if a scheduled speaker fails to appear.
Paper Categories  Symposia Papers were solicited by symposia chairmen, and their presentation length varies according to the requirements of each meeting. Where chairmen did not indicate presentation order, the papers have been scheduled as they appeared in the Preliminary Program. Times have been assigned to facilitate session-hopping; it is requested that chairmen maintain the established schedules. If there is need for time or order changes, please announce the new schedule on the blackboard at the start of the meeting. Symposia and general session chairmen are requested also to use the blackboard to indicate the identity of the speaker for latecomers. Symposia abstracts are given separately in the Program and Abstracts.

Contributed Papers  (CP) are unsolicited contributions which had to be received in full manuscript form for consideration for 20-minute presentation. 10-minute question periods have been scheduled with each CP.

Research Reports  (RR) have been received in abstract form only and have been scheduled for 10-minute presentation with 5 minutes for questions. Since maintenance of the schedule is mandatory for CP and RR sessions, chairmen and participants are instructed to observe these time limits closely. Further discussion should be taken outside the meeting room to one of the lounge areas provided, such as Capital Suite B.

Directory to Hotel Restaurants and Lounges
The Carvery: breakfast, lunch, dinner, 6:30 a.m. to 11:00 p.m.
The Town and Country Restaurant and Lounge: breakfast, lunch, light snacks, 6:30 a.m. to 1:00 p.m.
The Lobby Court Lounge: noon to 7:30 p.m.

NOTE FROM THE PROGRAM COMMITTEE
This year's Program represents an attempt to contain the meeting to a maximum of six concurrent sessions. Priority was given to symposia and to contributed papers for daytime scheduling. Most research reports have been placed in evening sessions. The committee wishes to thank the participants for their cooperation in submitting papers and symposia according to specification and their tolerance of submission guidelines and scheduling problems. Please observe the paper time limits. In the effort to evaluate and plan future Annual Meetings we would appreciate feedback on this Program and meeting.
PROGRAM
THURSDAY MORNING, 2 MAY

(1, 2) Symposium: ENVIRONMENT AND BEHAVIOR AT ANTELOPE HOUSE, CANYON DE CHELLY, ARIZONA
Chinese Room
9:00-9:10 Organized by: Don P. Morris
9:10-12:00 Chainred by: Keith Anderson
and
2:00-5:00 Participants:
James P. Rock, Antelope House Archaeology Methodology
Arthur Dennis, Antelope House Project: The Natural Environment
Ernest E. Mount, Antelope House Project Survey
Anita S. Hargreaves, The Wild Plant Remains
Pamela G. McPherson, The Cotton Industry at Antelope House
Robert L. Hart, Cultivars from Antelope House
James E. Kelley, Zooarchaeological Analysis at Antelope House: Environmental Influences from Distribution Data
Larry Manuilo and Mark E. Harlan, Data Management and Processing for the National Park Service's Antelope House Project
Gary Fry and J. H. Hall, Human Coprolites from Antelope House: Preliminary Analysis
Charmion R. McKusick, Avifauna from Antelope House
James A. Dues, Basketry Remains from Antelope House
Discussants: Michael Schiffer, Jeff Reid

(3) Symposium: ROLES OF THE STATE ARCHAEOLOGISTS: PROBLEMS AND PROSPECTS
Pan-American Room
Organized and Chairred by: James E. Fitting, Marshall McKusick
9:00-9:10 Participants:
William A. Ritchie, Reminiscences of a State Archaeologist
9:10-9:20 Ray Baby, The State Archaeologist in the State Museum
9:30-9:40 George Frison, The State Archaeologist in the University
9:40-9:50 Hester Davis, The State Archaeologist as Coordinator
9:50-10:00 Joan Freeman, The State Archaeologist in the Historical Agency
10:00-10:10 Bette Broyles, The State Archaeologist in the Natural Resources Agency
10:10-10:30 Discussion

(4) Symposium: CENTRAL PLACE THEORY AND OTHER LOCATIONAL MODELS
IN ARCHAEOLOGY
Grand Ballroom
Organized and Chairred by: Carole L. Crumley
9:00-9:10 Participants:
Carole Crumley, Polities, Paradigm, Ports-of-Trade: The Role of Central Place Theory in Hypothosis Formation
9:10-9:20 Brad Bartel, A Locational Analysis of the Anatolian Early Neolithic
9:30-9:40 Janet L. Ely, A Test of Central Place Theory in an Archaeological Context
9:40-9:50 Robert Wenke, Application of Locational Models to the Evolution of Imperial Systems in Southwestern Iran
9:50-10:00 H. Martin Webst, Centripetal Tendencies in Egalitarian Societies: The Implications of Computer Simulation
Discussant: Leslie J. King

(5) Symposium: SOUTHEASTERN WOODLAND STUDIES: NEW DIRECTIONS
State Room
Organizer: John A. Waithall
Chaired by: John A. Waithall, Drexel A. Peterson
Participants:
9:30 Drexel A. Peterson, The Antecedents for the Woodland Pattern in the Lower Tennessee Valley
9:45 J. J. Jenkins, Settlement and Subsistence Patterns in the Western Middle Tennessee Valley During the Transitional Period
10:00 Daniel T. Penton, The Early Swift Creek Phase in North Florida: Internal Connections
10:15 John A. Waithall, Hopewellian Trade and Interaction in the Mid-South
10:40 C. Earle Smith, Direct Evidence for Woodland Diet and Environment
11:05 Wesley Cowan, Cultural-Ecological Studies in the Southeast: Sone Perspectives
Discussants: James B. Griffin, Christopher S. Peebles

(6) Contributed Papers: MIDDLE AMERICAN CIVILIZATION
East Room
Chairred by: Joseph Ball
Participants:
8:00 Ronald A. Gremmen-Ravitz, The Quintessential Role of Olmec in the Central Highlands of Mexico: A Refutation
8:30 Paul F. Hally, The Cuyamel Caves: Preclock Sites in Northeast Honduras
9:00 Prentiss M. Thomas, Jr., Classic Maya Terracing and Artificial Ridges at Becan, Campeche
9:30 Joseph J. Baily and D. F. Potter, Preclock Architecture at Becan, Campeche, Mexico
10:00 Meryl C. Alter, Sculptural Stucco Techniques Used at Palenque, Chiapas, Mexico
10:30 Gary A. Pani, Historical Analysis of the Hieroglyphic Inscriptions at Copan
11:00 Helen Perleman, Early Urbanism in the Late Postclassic: The Case of Tzintzuntzan
11:30 Patricia A. Anawalt, Mesoamerican Costume Distribution at the Time of Spanish Contact

(7) General Session: ADMINISTRATION AND ETHICS
Senate Room
Chairred by: Evan I. DeBoer
Participants:
9:00 Robert Cunningham (CP), Could Field Research Administration Be Economically Improved and So Aid Scientific Achievement?
10:00 Robert K. Smith (CP), Toward a Code of Archaeological Ethics
11:00 Richard E. Ross (RR), Field Archaeology and the Grade School Experiment

THURSDAY AFTERNOON, 2 MAY

(8) General Session: SITE SURVEY AND SAMPLING TECHNIQUES
Senate Room
Chairred by: Evan I. DeBoer
Participants:
10:00 J. Barto Arnold and George B. Kegley (CP), A Magnetometer Survey of a Prehistoric Village in Western Texas
10:30 G. A. Clark, G. C. Fuente and L. G. Strauss (RR), Preliminary Site Survey in the Cantabrian Mountains, Burgos, Spain
10:45 Evan I. DeBoer (RR), A Test of Random Sampling in Archaeological Surveying
11:00 Margaret K. Brown (RR), Traverse Mapping: A Case Study
11:15 Thomas R. Lyons, James I. Ebert, Basil G. Pouls and Robert H. Hitchcock (RR), Photogrammetric Mapping and Locational Digitalization of Pre-architecture Techniques and Application
11:30 Robert K. Hitchcock, James I. Ebert, and Thomas R. Lyons (RR), The Role of Remote Sensing in a Regional Archaeological Research Project
11:45 J. Simon Bruder, E. G. Large, and Barbara Stark (RR), Remote Sensing as an Aid to Archaeological Survey in Estuarine Mangroves Swamps: A Field Test in Vara Cruz, Mexico

(9) Symposium: ENVIRONMENT AND BEHAVIOR AT ANTELOPE HOUSE, CANYON DE CHELLY, ARIZONA (Continuation of Session 1)
2:00-2:10 Chinese Room
5:00-5:10

(10) Symposium: THE PASSING OF THE PUBLIC DOMAIN IN ALASKA: CHANGING PATTERNS OF LAND OWNERSHIP AND THE FUTURE OF ALASKA ARCHAEOLOGY
Pan-American Room
Organizer: Karen W. Workman
2:00-2:10 Chaired by: Allen P. McCartney, Karen W. Workman
5:00-5:10 Participants:
Representatives: National Park Service, Bureau of Land Management, Department of the Air Force

(11) Symposium: SPATIAL ANALYSIS IN ARCHAEOLOGY: THEORY AND PRACTICE
Grand Ballroom
Organizer and Chairred by: Robert G. Reynolds
2:00-2:10 Steve Plog, The Statistical Analysis of Spatial Variation in Stylistic Attributes
Waldo Tobler, Models of Spatial Autocorrelation: Their Development and Application

Gunnar Olsson, The Importance of Dialectics as a Tool in Spatial Analysis

Charles Strother, Computer Simulation as a Tool for Spatial Analysis in Archaeology: A Simulation of Food Procurement in a Semi-arid Plain

Robert G. Reynolds, Automata Theory and Its Applications in the Analysis of Adaptive Spatial Systems

Michael Dacey, Point Pattern Analysis and Archaeological Site Predictions

Discussants: Kent V. Flannery, George Frison

(11) Symposium: MOUND 72 AT THE CAHOKIA SITE: SOCIAL STRATIFICATION AND EXCHANGE IN THE FAIRMOUNT PHASE A.D. 900 TO 1050

State Room

Organizer and Chair: Melvin L. Fowler

Participants:

Jerome Rose and Janice Cohen, Skeletal Biology, Mound 72

Prudence Precourt, The Typological Classification and Interpretation of Projectile Points from Mound 72

Barbara Vandenbush, An Analysis of Mound 72 Pottery

Melvin L. Fowler, Chunky Stones, Sheet Copper and Other Exotic Artifacts from Mounds

Melvin L. Fowler, Interpretation of Burial Data, Stratigraphy and Artifacts from Mound 72

David Os Ostrow, Impressionistic and Programmed Typology—A Deductive and Inductive Comparison

James Anderson, The Excavation and Stratigraphic Data from Mound 72

Discussant: James Brown

(12) Symposium: THE LATE INTERMEDIATE CHIMU OCCUPATION OF THE NORTH COAST OF PERU

Senate Room

Organizer: James B. Richardson

Participants:

Margaret Hodge, Chimu Domestic Ware

Alexandre Klimushyn, Urban Growth at Chan Chan, on the Basis of Data from Intermediate Architecture

Geoffrey W. Kennedy, The Burial Platforms of Chan Chan: Social and Political Intentions through Ethnographic Analogy

Kent Day, The Late Intermediate Occupation of the Lambayeque Valley

James B. Richardson, The Huaca del Sol: A Coastal Site in the Central Expanse of the Inca Empire

Allison Haas, The Chimu Occupation of Quebrada Parinas and the Chira Valley

(13) Contributed Papers: SETTLEMENT PATTERNS AND SOCIAL ORGANIZATION

East Room

Chair: Frank W. Edy

Participants:

Robert L. Bettington, Three Patterns of Prehisotric Settlements in Central Eastern California: Summary Interpretation of the Owens Valley Project, Years I and II

Frank W. Edy, The Settlement Model for Reconstructing Prehistoric Social Organization at Chimney Rock Mesa, Southwestern

E. Pierre Morenon, A Model of Cultural Complexity: A Complex View of Change in the American Southwest


Jonathan E. Rayman, The Emic and Ethic of Kia Niche Placement

Susan B. Graham, “Art,” and Archaeology: An Anthropological Approach

THURSDAY EVENING, 2 MAY

5:00-OPEN HOUSE

7:00-Promenade

(14) Plenary Session: SMITHSONIAN CONFERENCE ON BIOLOGICAL AND BIO- GEOGRAPHICAL MODELS IN ARCHAEOLOGY: Conference panel summation and open discussion

State/ East Room

Chair: John Terrell

Participants:


FRIDAY MORNING, 3 MAY

7:30-Breakfast Meeting: COMMITTEE ON ANTHROPOLOGICAL RESEARCH IN MUSEUMS

9:00-Capital Suite

(15) Symposium: THE USE OF COMPUTERS TO SOLVE LOGISTIC AND OTHER NON-STATISTICAL PROBLEMS

Pennsylvania Suite

Organizer: C. Irwin-Williams

Chair: David L. Brown

Participants:

Thomas L. Tho, Contingency and Growth at Moche (Discussant: Richard Keating)

Donald Proulx, The Early Intermediate Period on the Southern North Coast of Peru (Discussant: Ray Reichert)

John P. Thatcher, A View of the North Highlands as Seen from Huachucos (Discussant: James Kueh)

Timothy Earle, Intersessional Exchange during the Early Intermediate Period on the Central Coast of Peru (Discussant: Thomas Patterson)

Chair: David L. Brown, Demographic Pre-Conditions for Conquest in Junin (Discussant: William Isbell)

(16) Symposium: THE INDIVIDUAL IN PREHISTORY: STYLE VARIABILITY IN TECHNOLOGY—PART I

East Room

Organizers and Chair: James N. Hill, Joel Gunn

Participants:

Frank Chlach, Archaeological Theories of the Individual

John Higgs, Style, New Mexico, and the Indus Connection

Margaret E. Friedman, The Boundary between Motor Habits and the Cognitive Structure: Further Evidence from the Professional Level

Charles L. Redman, The "Analytical Individual" and Prehistoric Style Variability

James N. Hill, Individual Variability in Ceramics, and the Study of Prehistoric Social Organization

Kathleen Gilmore, Caddoan Interaction in the Neches Valley, Texas

(17) Symposium: TRADE AND COMMUNICATIONS IN NORTHEASTERN NORTH AMERICA

State Room

Organizer: Ronald A. Thomas

Chair: Howard D. Winters

Participants:

Ronald A. Thomas, The Effects of Trade on Aboriginal Cultural Manifestations of the Delmarva Peninsula

Joseph Granger, Cache Blades, Chert and Communication in the Early Woodland Period of New York State

James E. Fitting, Economic Theory and Late Period Trade in the Upper Great Lakes Region

Martha P. Otto, Trade Systems of the Early and Middle Woodland Period in the Ohio Valley

Chair: Ronald A. Thomas, Prehistoric Exchange Systems in the Eastern United States

Discussants: James B. Griffin, Howard D. Winters
FRIDAY AFTERNOON, 3 MAY

Noon   PAST PRESIDENTS OF SAA LUNCHEON
D. W. Schwartz, host
Capital A Suite
RESTAURANT CAFE, 12:30 PARK PLACE.

(43) Demonstration and Workshop Session: COMPUTER APPLICATIONS
Continued...
2:00   Pennsylvania Suite

(16) Symposium: NEW PERSPECTIVES ON THE EARLY INTERMEDIATE PERIOD OF
PERU-Part I: SOUTH COAST AND SIERRA
Senate Room
Chair: David L. Brown
Participants:
2:00  Catherine Wagner, The Nasca Creatures: Some Problems of Iconography
(Residents: Scott Raynor)
2:30  Allison Paulsen, Late Nasca Pottery at Huaca del Loro, South Coast of Peru
(Residents: Dwight Wallis)
3:00  Helaine Silverman, A Preliminary Reconstruction of Aspects of Nasca Culture during
Period I of the Early Intermediate Period at Carasi (Residents: William Isbell
and Dwight Wallis)
3:30  Jane P. Dwyer and Edward B. Dwyer, The Development of Themes in the Early
Intermediate Period Art of South Coastal Peru (Residents: William Isbell
and Dwight Wallis)
4:00  Joel P. Grossman, Early Intermediate Period Settlements and the Impact of Huari
in the South-Central Highlands of Ancash, Ayacucho, Peru (Residents: Scott Raynor)

(18) Symposium: THE INDIVIDUAL IN PREHISTORY: STYLE VARIABILITY IN
TECHNOLOGY-Part II
East Room
Chair: James Hill and Joel Gunn
Participants:
2:00  James Adovasio, The Identification of Individual Style Variability in Basketry
Manufacture
2:30  Dale R. Cross and Jonathan A. Davis, Computer Mapping of Idiosyncratic
Basketry Manufacturing Techniques in the Prehistoric Otzara Trophy, Co Aucalla,
Washington
3:00  Joel Gunn, Individual Style Variability in Basketry Chopping
3:30  Tony Hruby, A Proposed Model for Idiosyncratic Analysis of Chipped Stone
Implement
4:00  Marvin Kay, Wear Analysis and Unifacial Scraping Tool Morphology: A Possible
Case of Individual Use
4:30  Discussant: Arnold G. Rubin

(22) General Session: DEMOGRAPHIC MODELS AND TECHNIQUES
Grand Ballroom
Chair: William L. Rathje
Participants:
1:00  Janet D. Orcutt (CP), Problems in Measuring Prehistoric Population Size
1:30  Mark N. Cohen (CP), Archaeological Evidence for Population Pressure in Pre-Agricultural Societies
2:00  R. G. Watson (CP), The Use of Hutchinson’s N-Dimensional niche Space on Cedar
2:30  Charles G. Hobbs and James P. Loucks (CP), Demography and Archaeology: An
Evaluation of Naroll and LaBlanc’s Calculations
3:15  George L. Cowgill (CP), On Population Growth as a Non-Explanation
3:45  Marilyn C. McEwan (CP), Prehistoric Population Size on the Island of Rarotonga

(23) General Session: EXPERIMENTAL AND HISTORICAL ARCHAEOLOGY
Grand Ballroom
Chair: William L. Rathje
Participants:
4:15  Nelson A. Reed (CP), Lessons from the Replications of Five Prehistoric House Types
4:45  Alice B. Bartowsky (CP), The Experiment in Archaeology: A Comparison of Two
Case Studies
5:15  Gerald E. Bentley (CP), Anglo-Saxon Archaeology Today
FRIDAY EVENING, 4 MAY

ANNUAL BUSINESS MEETING
5:30 - State-Exterior
6:30

NEW MEMBERS RECEPTION, hosted by SAA Officers and Executive Committee
7:30 - Pennsylvania Suite
9:00

RAP SESSION: THE USE OF COMPUTERS TO SOLVE LOGISTIC AND NON-STATISTICAL PROBLEMS, Informal presentations and discussion
8:00 - Maryland Room
11:00 Moderated by: C. Irwin-Williams

RAP SESSION: EDITORIAL POLICY OF AMERICAN ANTIQUITY
8:00 - Senate Room
11:00 Moderated by Frank Hulse, Editor

(24) Symposium: THE THUNDERBIRD ARCHAEOLOGICAL PARK AND MUSEUM AND RELATED RESEARCH PROGRAM
State Room
Organizer and Chairman: William M. Gardner
Participants:
2:00 William M. Gardner, The Thunderbird Archaeological Park and Museum: Its Conception, Aims and Purpose and the Role of Commerical Enterprise in the Middle Shenandoah Valley Research Program
2:15 Antonio V. Segovia, Geology and Archaeology: Geomorphological Investigations of Prehistoric Sites, Methods, Techniques and Results
2:30 John R. Foss, Palaeo-Geological Investigations along the South Fork of the Shenandoah
2:45 Victor A. Carbone, Paleo-Climatological Investigations along the South Fork of the Shenandoah
3:00 William P. Boyer, Kurt Carr, and James F. Gross, The Paleo-Indian Research Program
3:15 Deborah W. Harrison, Beyond Paleo-Indian: Chronology and Pattern in the Archaic
3:30 Dolores A. Hall, The Prehistoric Site Survey Program in the Middle Shenandoah Valley
3:45 Joan M. Walker, Mounds, Mound Groups, and Structures
4:00 Glenda F. Miller, The Ethnographic-Late Prehistoric Program, or Where Have All the Indians Gone
4:15 Joseph P. McAmmara, Field Schools and Students: Their Role in Archaeological Research
4:30 C. Lanier Rodgers, Jr, The Amateur, Local Resident and Landowner

(25) Symposium: ANALYSIS OF SPATIAL DISTRIBUTION ON OCCUPATION FLOORS
Pan-American Room
Organizer and Chairman: Robert Whallon
Participants:
2:00 Michael B. Schiffer, Cultural Formation Processes of "Occupation Floors"
2:15 John M. Fisk, Models for the Spatial Analysis of Paleolithic "Living Floors"
3:00 Del Dureia, Boundary and Spatial Association Analysis with Petro's D-Function and Relative Entropy
3:15 Robert Paynter and Stanton Green, Spatial Clustering Techniques of Discrimination
3:40 T. Douglas Price, Methods of Spatial Analysis of Occupation Floors: A Comparison Using Mesolithic Open-Air Sites in the Netherlands
4:00 John W. Krick, Differential Effects of Erosion on the Presence of Cultural Remains at a Preceramic Peruvian Site
4:20 Robert Whallon, Jr, Tool Kits or Activity Areas?
4:40 Discussions: John Yellen, H. Daniel Roth

(26) General Sessions: ANALYSIS OF ARCHAEOLOGICAL MATERIALS
Chinese Room
Chaired by: Melvin Aikens
Participants:
1:15 John B. Huter (CP), Functional Assemblages of Some Ceramic Containers from the White River Lowlands, Arkansas
1:30 Jonathan E. Erickson and Suzanne P. De Atley (RR), Tijuana B.C., Revisited: Morphology and Capacity of Vessels
2:00 Bruce Rippeteau (CP), The Intelligent and Maximal Use of Radiocarbon Dates, Explicit Techniques for Evaluating Variation, Testing Contemporaneity, and Building Radiometric Chronologies
2:30 Jeanne Binning, Peggy McGuckian, Alan Garfinkel, and Ann Maritz (CP), A Methodology for the Functional Classification of Flaked Lithic Tools
3:00 James W. Mueller (RR), Prehistoric Exchange and Incomplete Artifacts
3:15 Thomas R. Hester (RR), Analysis of Obsidian Artifacts from Beleb (Chinuita Viejia) Central Guatemala
3:30 L. Lewis Johnson and Deborah Hanson (RR), A Technological Analysis of an Aquas Verdes Quarry-Workshop
3:45 Barbara Purdy (RR), A Process of Manufacture for Florida Archaic Projectile Points
4:00 Ervan Garrison, Charles McCluskey, and Otto Zinke (RR), Alpha Tracks: A Potential Dating Technique for Archaeology
4:15 Gary Hume (RR), Methods of Analysis for Lithic Surface Situations
4:30 David J. Ives (RR), Project Crosses: An Objective Method for Determining Heat Treatment
4:45 Nancy P. Weller (RR), Getting a Mummy X-Ray

COMMITTEE ON THE PUBLIC UNDERSTANDING OF ARCHAEOLOGY
4:00 - Columbia Room
5:00 Chaired by: Hester Davis

(28) General Sessions: WESTERN NORTH AMERICA AND THE ARCTIC
East Room
Chaired by: Dennis Stanford
Participants:
8:00 William J. Foshee, Archaeology of Jicarilla Cave, Upper Birch Creek Valley, Idaho
8:30 Eileen Johnson (RR), Lubbock Lake, Texas
8:45 Charles A. Johnson (RR), Deformational Environments at the Lubbock Lake Site
9:00 Dennis Stanford (RR), The Jones-Miller Site, A Preliminary Report
9:15 James C. Jameson (RR), An Evaluation of the Overkill Model
9:30 Larry D. Agee (RR), Results of the Third Field Season: Hudson-Meng Paleo-Indian Bison Kill, N.W. Nebraska
9:45 C. Melvin Aikens and David L. Cole (RR), Dirty Shame Rockshelter, S.E. Oregon
10:00 Richard M. Pettis (RR), Preliminary Cultural Sequence from the Lower Columbia Valley
10:15 Jon G. Davis (RR), A Cyouse Phase Seasonal Camp in Central Washington
10:30 G. W. Robinson (RR), Skagit Delta Area Prehistory, Washington
10:45 Robert E. Ackerman (RR), Archaeological Investigations in Southeastern Alaska, 1973
11:00 Charles E. Holmes (RR), Archaeological Investigations in Central Alaska

(29) General Sessions: THE EAST AND MID-WEST
State Room
Chaired by: J. Cynthia Weber
Participants:
8:00 William F. Foshee (RR), The Bradon-Tumuli: Early Burial Mounds on the Straits of Belle Isle, Quebec
8:15 Louis Cassaba (RR), The Boucher Site (V.0-Cr-25): Implications for the Study of Early Woodland Mortuary Practices in Vermont
8:30 Wendell D. Rhodes (RR), Macuser Complex Site, Livingston County, Michigan, A Multi-component Stratified Archaeological Woodland Site (4390-1000 B.P.)
8:45 Steve Wilke and Gail Robinson (RR), Environmental and Cultural Change in the Upper Chesapeake Bay Area
9:00 Harvard G. Ayers (RR), Cultural and Social Change during the Susquehanna Tradition in the Potomac River Valley
9:15 John W. Fuller (RR), Developmental Change in Prehistoric Communities: Evidence from West Virginia
9:30 Burton L. Poinsett (RR), The Jones-Mound: Local Middle Woodland Traditions in Pennsylvania
9:45 James M. Heilman and Louise Robbins (RR), Incanerter Site (33 My 57), A Possible Fort Ancient Project Site
10:00 Frederick C. Hill (RR), Exploitation of Animal Resources by Inhabitants of the Foster Site
10:15 Patricia J. O'Brien (RR), The Seriation of Steep-Steaker Sites
10:30 Alfred E. and Ann S. Johnson (RR), A Model of the Kansas City Hopewell Subsistence-Settlement System
10:45 Robert W. Neuman (RR), Complicated Stamped Pottery in Louisiana: Its Age and Distribution
11:00 Charles A. Hoffman, Jr. and H. K. Brooks (RR), The Guest Mammoth Site in North Florida
(30) General Session: SOUTH AMERICA
Pan-American Room
Chairperson: J. P. Marrs
Participants:
7:30 Howard P. Goldfrank (CP), The Criteria of Civilization and Operational Equivalents
8:00 Alana Cordy Collins (CP), The Possible Use of Textiles as a Catechism in the Early Horizon in Peru
8:30 Allison C. Pauleen and Eugene J. McDougall (CP), A Ceramic Sequence for the Machuca and Ingorgay Occupations of the Santa Elena Peninsula, South Coastal Ecuador
9:00 Mark Druss (RR), Chilcu Complex Phase Sequence
9:15 Gordon C. Poliar (RR), Research Development in Jujuy Province, N.W. Argentina
9:30 Robert Braun (RR), Excavations and Surface Survey along Rio Callari, Eastern Peru
9:45 Louis J. Tartaglia (RR), Headless Burials: A Specialized Mortuary Practice at Guatocando, Chile
10:00 Erika Wagner (RR), New Archaeological Evidence from the Lake Maracaibo Basin
10:15 Albert Zucchi ( RR), Archaeological Research in the Northwestern Venezuelan Llanos
10:30 Alan R. Sawyer (RR), Stone Forgeries in Chavin Style
10:45 Karen O. Brohns (RR), The Moon Animal in the Northern Andes
11:00 John S. Athens and Alan J. Osborne (RR), Recent Archaeological Investigations at Several Ceramic Sites in the Highlands of Northern Ecuador

SUNDAY MORNING, 4 MAY

(31) Symposium: PROBLEMS IN SALVAGE ARCHAEOLOGY
East Room
Organizer and Chairperson: Ellis E. McDowell
Participants:
9:00 Charles McNett, Jr. and Russell Handsman, Salvage in Pennsylvania
9:15 Fred Olley, Theory and Method in New York Highway Salvage
9:45 William A. Cross, Theory and Method in Salvage Archaeology
10:00 Marian Wells, Goals of the Highway Salvage Survey: The Northeast, an Example
10:15 Neil Trubowitz, Research Orientations in Salvage Archaeology
10:30 Ellis E. McDowell, Problems in Salvage Archaeology: Some Problems and Suggestions
11:00 Kohabo: Holistic Conservation: Personal Involvement in Saving Sites and Data
11:15 Alexander J. Lindsay, Jr., Research Orientations in Contract Archaeology: Examples from Arizona
11:30 Steven L. Fuller, Investigations near Ganado, Northeastern Arizona: A Test Case for Contract Archaeology

(32) Symposium: CURRENT APPLICATIONS OF SCIENTIFIC ANALYSIS TO THE STUDY OF ARCHAEOLOGICAL MATERIALS: SOME EXAMPLES FROM PRE-COLUMBIAN Meso- AND SOUTH AMERICA
Pan-American Room
Organizer and Chairperson: William Potts, Jack Olin
Participants:
8:00 Anthony C. Sahlof, Introductory Remarks on the Interdisciplinary Study of Mesoamerican Fine Paint Ware: The Problem, the Rationale behind the Program, the Archaeological Implications
8:30 Robert L. Rand and Ronald L. Bishoff, Petrographic Investigations of Western Maya Fine Paint Pottery: Methodological Procedures and Correlations with Brookhaven Analytical Data
9:00 Garman Harbottle and Edward V. Sayre, Scope and Analytical Procedures of the Brookhaven Program of Neutron Activation Analysis of Mesoamerican Fine Paint Pottery
9:30 Edward V. Sayre and Garman Harbottle, Methods of Data Handling for the Brookhaven Program of Neutron Activation Analysis of Mesoamerican Fine Paint Pottery
10:00 Gary W. Carnevali and Mark C. Han, Thermoluminescent Dating and the Mystery of Acambaro
10:30 Mary Elizabeth King, Analytical Methods and Prehistoric Textiles
11:00 C. H. Deppen, Phyllis Guillikian, and Mary Ann Tomasik Perry, The Identification of Ancient Organic Dyes Stains by Mass Spectrometry
11:30 Richard S. MacNeil, The Care and Feeding of Interdisciplinary Studies

(33) Symposium: CONTRIBUTIONS OF PHYSICAL ANTHROPOLOGY TO ARCHAEOLOGICAL INTERPRETATION
Chinese Room
Organizer and Chairperson: Douglas Ubelaker
Participants:
9:00 J. Reuben Clark, New Radiocarbon Dates and Pinto Culture: A Preliminary Report
9:30 Kenneth Weiss, The Use of Life Tables for Demographic Inference from Skeletal Populations
10:00 Douglas A. Ubelaker, Anatomical Anthropological Interpretations from Demographic Reconstruction: A Case Study from the Tidewater Potomac
10:30 James Moore, Alan Savelrud and George Armold's, Analysis of Mortality in Archaeological Populations
10:45 G. Armold's, A Savelrud's, and J. Moore, Paleoenvironmental Analysis of Disease in Prehistoric Populations
11:00 J. Lawrence Angel, Social Biology and the Archaeologist
11:30 Juan R. Mursciro, Biological Research Applicable to Archaeological Problems in South America
11:45 Richard L. Jones, Multivariate Analysis of Human Crania: An Application to Some Archaeological Problems
12:00 Audrey Sublette, Physical Anthropology and Archaeology of a Multicomponent Site in New York State

(34) Symposium: WEEDEN ISLAND-ISM IN THE SOUTHEASTERN UNITED STATES: NEW PERSPECTIVES
State Room
Organizer: Jerald Milanch
Chairperson: Charles Fairbanks
Participants:
9:00 Jerald Milanch, General and Specific Evolution of Weeden Island Cultures: An Overview
9:30 John H. Walker, Distribution and Significance of Weeden Island Sites in Georgia and Alabama
10:00 George W. Perry and David S. Broge, Weeden Island Ecology, Subsistence and Distribution: A Comparison of Coastal and Inland Manifestations in Northwestern and Central Gulf Coast Florida and Adjacent Sections of Alabama and Georgia
10:30 David S. Broge and George Perry, Weeden Island Ceremonialism: A Reappraisal
11:00 E. Thomas Hemming, Cades Pond Subsistence, Settlement and Ceremonialism
11:30 Discussant: William H. Sears

(35) Symposium: PREHISTORY OF THE MOJAVE DESERT REGION, SOUTHERN CALIFORNIA
Senate Room
Chairperson: Leslie E. Wilcox
Participants:
9:00 Leslie E. Wilcox and Carol Mortland, The Fallacy of "The Desert" as a Prehistoric Culture Area
9:30 Carol Mortland, Ethnographic Analogies in Archaeological Prediction
10:00 T. J. Kins, Jr., Paleo-environmental Hypotheses for the Western Mojave Desert
10:30 Jeanne Binning, Aboriginal Land Use in Southern Riverside County, California
11:00 Carole Connolly, Correlations of Archaeological Data with Paleo-environmental Change
11:30 Amanda Marsh, The Archaeology of the Eastern Mojave Desert

(36) General Session: SUBSISTENCE AND RECONSTRUCTION OF PALEO-ENVIRONMENTS
Grand Ballroom
Chairperson: Olga Linares
Participants:
9:00 Albert A. Dekin (CP), The Valrus and the Polished Burin: A Possible Dynamic Duo from Eastern Prehistory
9:30 Jefferson Chapman and Richard A. Yarnell (CP), A Reconstruction of Paleo-environmental and Subistence Patterns in an Early Archaic Period Site in Tennessee
10:00 Joseph C. Winter (CP), The Spread of Agriculture in the Southwest and Great Basin
10:30 Olga Linares (CP), On the Absence of Animal Domestication in the New World Tropics: A Systems Approach
11:00 Bruce C. Smith (CP), Middle Mississippi Exploitation of Animal Populations: A Predicative Model
11:30 Lallay, F. Diffendal (RR), Caloric Value: An Aid in Reconstructing Prehistoric Environments
SATURDAY AFTERNOON, 4 MAY

(37) Symposium: ADAPTIVE STRATEGIES IN BIOLOGICAL AND CULTURAL TRANSITION ZONES: EXAMPLES FROM A CENTRAL ARIZONA ECOTONE

State Room
Organizer and Chaired by: George J. Gumerson
Participants:

2:00 George J. Gumerson, The Central Arizona Ecotone Project
2:10 Isadore Kaelin and R. Roy Johnson, The Interrelationships of Cultural and Ecological Diversity
2:20 John A. Hanson and Steven C. Sessions, The Role of Cultural Diversity in the Exploration of the Central Arizona Ecotones
2:30 Carol S. Weed, ...For the survival and profit of our hope..." A Model of Centralized Redistribution
2:40 Douglass E. Bush, Hydrologic Aspects of the Central Arizona Ecotone
3:00 David A. Phillips, Historic and Prehistoric Water Control Strategies in Southern Arizona Ecotones
3:10 Douglas Hanson, Nutrition and Disease in a Biological and Cultural Transition Zone

Discussion Leaders: Fred Plog, James E. Fitting

(38) Symposium: THE KOSTER SITE: A STRATIFIED ARCHAIC SITE IN THE CENTRAL MISSISSIPPI VALLEY AREA

Grand Ballroom
Organizers: James A. Brown, Jane Bulkastra, Stuart Stuever
Chaired by: Lewis R. Binford
Participants:

2:00 Stuart Stuever, History of the Koster Research
2:10 Carl Bebich, Koster's Stratigraphy: The Methodology of Site Structure Analysis
2:20 Paul W. Butler, Geomorphic History of the Koster Site Area
2:30 David Asch, Koster Site—The Natural Environment
2:40 Thomas Glenn Cook, Archaic Lithic Technologies at Koster
3:00 James A. Brown, Patterns and Organization in the Koster Archaic Settlements
3:10 Jane Bulkastra, Koster Site: Mortuary Activity and Human Biology
3:20 Lewis R. Binford, Remarks on the Koster Project
3:30 Discussion Leaders: Lewis R. Binford

(39) Symposium: APPROACHES TO ARCHAEOLOGICAL CHEMISTRY

Pan-American Room
Organizer: Thomas Meyers
Chaired by: Thomas R. Heizer
Participants:

2:00 Thomas Meyers, The Need for Standardization of Results in Archaeological Chemistry
2:15 Barbara Leidke, Characterization of Charred Seeds by Neutron Activation Analysis
2:30 Jeanette Jackson Thompson, Activation Analysis at the U.M.C. Laboratory for Nuclear Archaeology: I. Ceramics and Metals
2:45 Donald A. Greybill, Activation Analysis at the U.M.C. Laboratory for Nuclear Archaeology: II. Lithics
3:00 Alwin H. Luckenbach, Ralph O. Allen, and C. G. Holland, The Use of Rare Earth Element Concentrations in Neutron Activation Analysis of Soapstone
3:15 M. James Blackman, An Analysis of Jasper Artifacts and Source Materials by Atomic Absorption and Flame Photometry

Discussion Leaders: Gary Wright, Edward Wilkens

(40) Symposium: QUANTITATIVE FAUNAL ANALYSIS

Chinese Room
Organizer: David Yesner
Chaired by: David Yesner, Alan Bieber, Jr.
Participants:

2:00 Richard W. Casteel, A Comparison of the Methods for Estimation of Fish Size from Archaeological Remains
2:30 Patrick Munson, Faunal Analysis, Sample Size, Differential Destruction, and Suggested Correction Factors

RECORDING SESSIONS

Persons wishing to record scholarly sessions or portions of sessions should follow normal scholarly convention and obtain the permission of the person being recorded and of the chairman of the session at which recording is to be done. There should be no publication of such recorded material without following established procedures regarding permission and citation.
ABSTRACTS OF ORGANIZED SYMPOSIA

(1, 2) ENVIRONMENT AND BEHAVIOR AT ANTELOPE HOUSE, CANYON DE CHELLY, ARIZONA. Using concepts of behavioral archaeology as a unifying theory, data from the recovered vegetal and artificial array are used to test models explaining social group behavior, site location, subsistence, abandonment, and natural resource utilization. The perishable artifacts are reviewed for implications pertinent to social structure and social group relationships. Diachronic dimensions of the above problems are discussed, with emphasis on changes within the Pueblo III period.

(3) ROLES OF THE STATE ARCHAEOLOGIST: PROBLEMS AND PROSPECTS. One significant aspect of public archaeology is the development of the roles of state archaeologist to various capacities of research, coordinating state programs, site preservation, data collection, and data interpretation. Six state archaeologists review current programs from different administrative viewpoints. Each summarizes the problems and program administration from data analyzed from all other state archaeologists in the same administrative setting. The discussion following the papers will concentrate on common needs and developments in the public sector.

(4) CENTRAL PLACE THEORY AND OTHER LOCATIONAL MODELS IN ARCHAEOLOGY. Network and locational analysis and, more specifically, Central Place Theory have become more common in archaeological modeling of settlement systems. Although the integration into anthropological theory of a model that was originally the product of geographers is desirous, many archaeologists are apprehensive that a model originally designed to approximate a twentieth century urban industrial settlement system has not been adequately evaluated. Symposium explores the applicability of CPT to archaeology with data from a number of geographical areas.

(5) SOUTHEASTERN WOODLAND STUDIES: NEW DIRECTIONS. The Woodland period of Southeastern prehistory has long been a major concern of regional archaeologists. Traditionally, there has been a preoccupation with the construction of detailed regional and local culture histories based upon ceramic seriation and lithic typology. Utilizing these previous studies as a base, there has recently emerged a new perception of the Woodland traditions in the Southeast. Stress is now being placed upon environmental studies, settlement analysis and culture processes. The papers offered in this symposium present a sample of current research directed toward these new goals.

(9) Symposium: THE PASSING OF THE PUBLIC DOMAIN IN ALASKA: CHANGING PATTERNS OF LAND OWNERSHIP AND THE FUTURE OF ALASKA ARCHAEOLOGY. This past year two-thirds of the archaeologists applying for permits to do fieldwork in Alaska were unable to obtain them. This was in part due to the pending land selections under the Alaska Native Claims Settlement Act (increasing the number of agencies and organizations involved) and also to the fact that the present situation requires permit applications to be submitted much earlier than was necessary in years past. If there is to be a future for the past in the north, archaeologists must keep themselves informed of the rapid changes taking place regarding land ownership and management. They must also formulate a unified plan of action that will result in professional input to decision-making agencies throughout the state and nation. This symposium is to serve as a working session for the dissemination of information on how best to coordinate efforts prior to fieldwork, to acknowledge present and potential problems, and to present possible solutions to these problems.

(19) SPATIAL ANALYSIS IN ARCHAEOLOGY: THEORY AND PRACTICE. It is the intent of this symposium to provide a forum for the interaction of both archaeologists and geographers engaged in similar aspects of spatial analysis. Emphasis is on the development and application of new modes of spatial analysis. The present importance and future potential of the computer as a useful tool in the analysis of spatial distribution is stressed as well.

(11) MOUND 72 AT THE CAHOKIA SITE: SOCIAL STRATIFICATION AND EXCHANGE IN THE FAIRMOUNT PHASE A.D. 900 to 1050. The most elaborate burial mound ever excavated for the Cahokia site is known as Mound 72. This symposium presents an analysis of the unique features of the mound, the burial patterns, the biology of the populations represented, the description and distinction of the artifacts, and a summary of the implications in terms of social stratification at the Cahokia site and economic exchange with other areas of the United States during the time.

(12) THE LATE INTERMEDIATE CHIMU OCCUPATION OF THE NORTH COAST OF PERU. Recent investigations at Chan Chan, in the Lambayeque and China River Valleys, have shed new light upon the emergence of the Chimu state and its expansion as reflected in
reports and interpretations by various cooperating investigators in the Koster project. A synthesis of the cultural and environmental evidence is attempted and a broader interpretation of Anasazi adaptations in the central Mississippian drainage is presented.

(39) APPROACHES TO ARCHAEOLOGICAL CHEMISTRY. Recent interest in the chemical analysis of archaeological materials has become great, and a number of reports of analytical results have appeared in the literature. However, almost no standardization has been attempted in the reporting of these results, and there has been little standardization of the results themselves. Papers at this symposium are devoted to: (1) brief descriptions of several analytic studies of artifact materials; and (2) proposals for improved techniques for reporting and comparing analytic results in archaeology. It is hoped that the authors, discussants, and interested members of the audience generate in discussion some initial guidelines toward standardization.

(40) QUANTITATIVE FAUNAL ANALYSIS. A commonly occurring problem in the analysis of faunal materials either from regions or from individual sites is the quantification of materials in such a way that more meaningful interpretations of prehistoric subsistence patterns can be achieved. The symposium is constructed to explore both new techniques for handling faunal materials and new interpretations of prehistoric subsistence patterns. Data from several major ecological zones of North America are used as illustrative material, thus allowing a comparison of the application of techniques in different environments. Cautionary stricures are stressed as well as new approaches. Format of Symposium: Several 25-minute papers, interspersed by a 5-minute intermission, and followed by 2 25-minute discussions by 2 discussants and a few short concluding remarks by the symposium chairman.

(43) THE USE OF COMPUTERS TO SOLVE LOGISTIC AND OTHER NON-STATISTICAL PROBLEMS. Archaeologists often use computers for statistics, but neglect other potential applications. These applications include storage and retrieval of information: finding and remedying discrepancies in existing collection archives; inventorying large collections; making direct measurements from specimens and maps; keeping track of other materials in the field; preparing and updating dictionaries of current terms: interactive mapping; preparation of final maps from stored information. Many of these applications are based on the SELGEM system or are designed to be compatible with it. The SELGEM system was originated and developed by the Information Systems Division of the Smithsonian Institution. Participating Institutions: Eastern New Mexico University, Southwestern Anthropological Computer Consortium, Arizona State Museum, U.S. Forest Service, Inter-Mountain Regional Division, Washington State University, Northwestern University, University of California, Santa Barbara, Smithsonian Institution Information Systems Division, University of Kansas, Arizona State University,

ABSTRACTS OF PAPERS

Ackerman, Robert E. (Washington, D.C.), ARCHAEOLOGICAL INVESTIGATIONS IN SOUTHEASTERN ALASKA, 1973. During the 1973 field season, members of the crew of the M/V Kluane, the University of Alaska, and the State University of New York at Buffalo continued archaeological excavations in the Juneau region of Southeastern Alaska to continue further excavations at the 9000-10,000-year-old GHB 2 site, conduct an archaeological survey of the area, and search for the Kluane phase, a site 9000-10,000 years old. The project is an effort to determine the relation of these two sites to the Juneau region. The results of the 1973 field season indicate that the Juneau region was occupied by the Kluane phase and the GHB 2 phase. The GHB 2 phase occupied the area for a longer period of time than the Kluane phase. The project is supported by the National Science Foundation.

Adams, James (Pittsburgh), THE IDENTIFICATION OF INDIVIDUAL STYLE VARIATION IN ANASAZI CERAMIC MANUFACTURE. A series of measurements on isolated manufacturing and stylistic attributes were used to provide a basis for distinguishing the workmanship of individual prehistoric potters. Moreover, the same measurements were used to identify the production of separate populations of prehistoric potters in any given locality when perishables are numerous and well controlled chronologically.

Adams, James (Pittsburgh), BASKETRY REMAINS FROM ANTELOPE HOUSE, 1972.

Agenbroad, Larry D. (Chardon), RESULTS OF THE THIRD FIELD SEASON: HUDSON-MENC PALEO INDIAN BISON KILL, N.W., NEBRASKA. The 1973 field season provided additional information and details in the site of the Hudson-Menc site, which is a large bison kill site in Nebraska. The site was occupied by the Menc people, a group that was known to be present in the area.

Aiken, C. Melvin, and David L. Cole (Oregon), DIRTY SHAME ROCKSHELTER, S.E. OREGON. The Dirty Shame Rockshelter is an archaeological site located in the Midden rockshelter on the north side of the North Fork of the John Day River. The site was occupied by the Menc people, a group that was known to be present in the area.

Aikens, C. Melvin, and David L. Cole (Oregon), DIRTY SHAME ROCKSHELTER, S.E. OREGON. The Dirty Shame Rockshelter is an archaeological site located in the Midden rockshelter on the north side of the North Fork of the John Day River. The site was occupied by the Menc people, a group that was known to be present in the area.

Allen, Ralph O. (see Luckenbach, Alvin H.).

Anawalt, Patricia (UCLA), PAN-MESOAMERICAN COSTUME DISTRIBUTION AT THE TIME OF SPANISH CONTACT. This is the content of this paper that the same basic forms of costume, differing only regionally, were worn all over of Mesoamerica at the time of Contact. This hypothesis is investigated through examination and comparison of pan-Mesoamerican regional styles. Costume examples are drawn from extant codices and from art data and a method of abstract costume analysis. Garments are dealt with in terms of the basic principles around which they are constructed, the forms they take, and the utilitarian functions they serve. Comparative diagrams illustrate both regional variation and pan-Mesoamerican similarities of dress.

Anderson, James (Cahokia Mounds Museum), THE EXCAVATION AND STRATIGRAPHIC DATA FROM MOUND 7, Mound 72 was excavated because of its unique shape and orientation. These factors dictated the original excavation strategy. As a result, a post pit proper was excavated. Following this, excavations into the mound began in a series of sequential stages of small platform mounds that were ultimately connected together to form one large midden. The mound was excavated in a series of sequential stages of small platform mounds that were ultimately connected together to form one large midden. What had been planned for a single season or two or three seasons was expanded into a 5-year project that has completed most of the excavations of Mound 72.

Ansell, John Lawrence (Smithsonian), SOCIAL BIOLOGY AND THE ARCHAEOLOGIST. The Eastern Mediterranean from the end of Wurm glaciation to the present was ecologically challenging and varied (rainfall, soils) and historically critical (population density change, mixture, inventiveness). There is a striking correspondence between these factors and the presence of prehistoric human societies in the region. The development of a social biology approach to the study of prehistoric human societies in the Eastern Mediterranean is discussed.

Angel, J. Lawrence (Smithsonian), SOCIAL BIOLOGY AND THE ARCHAEOLOGIST. The Eastern Mediterranean from the end of Wurm glaciation to the present was ecologically challenging and varied (rainfall, soils) and historically critical (population density change, mixture, inventiveness). There is a striking correspondence between these factors and the presence of prehistoric human societies in the region. The development of a social biology approach to the study of prehistoric human societies in the Eastern Mediterranean is discussed.
Machell, Melinda (Massachusetts), PALEOEPIDEMIOLOGICAL ANALYSIS OF DISEASE IN PREHISTORIC POPULATIONS. Paleopathology or the study of disease in human populations can contribute to our understanding of demographic and archaeological interpretation when considered in the appropriate context. This presentation uses paleopathological data as a demographic variable in the analysis of material remains, Illinois. (33)

Arnold, J. Bero III (Texas Antiquities Committee), and George B. Kegele III (Texas Parks and Wildlife Dept.), A MAGNETOMETER SURVEY OF A PREHISTORIC SITE IN WESTERN TEXAS. Results of a magnetometer survey at Hueco Tanks State Park (41E2P) suggest a high correlation between magnetic anomalies and pit house structures and other notable features. The method is effective at this site. (34)

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Asch, David (Northwestern), KOSTER SITE—THE NATURAL ENVIRONMENT. Members of the Koster site rock-magnetism team collected and analyzed a variety of botanical, zoological, and geomorphological data pertaining to prehistoric environments of the site. Some preliminary reconstructions are presented in the paper, with assessments of the accuracy of magnetostatic interpretation. Magnetic anomalies discovered by the proton magnetometer were tested by excavation. (38)

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Ayers, William G., Jr. (North Carolina), POST FORMATIVE BURIAL PRACTICES IN THE VALLEY OF OAXACA, MEXICO. Accepting the assumption that an individual's treatment at death is a reflection of his social persona in life, and that society is reflected in the differences between interments, then social status systems of extinct societies can be derived from archaeological burial data. This study presents the results of an analysis of some 72 Post Formative burials from archaeological sites in the Valley of Oaxaca. Two techniques of analysis are employed. First, the burials are examined for regular trends in disposal through examination of such attributes as sex, age, body placement, and grave goods. The second method involves the use of a computer-based typological program—Monothetic Subdivisional Classification in Archaeology (Whallon 1971). Results of the methods are compared and contrasted in order to outline the variability of status positions. (77)

Ball, Joseph W., (Winconsin, Madison), and D. F. Potter (Tulane), PRECLASSIC ARCHITECTURE IN CENTER MEXICO. Excavations at the southeastern Campeche Maya site of Becan during the years 1959 through 1975 have revealed a sequence of occupation starting in the Middle Preclassic times. Structural activity was prolific from the Late Preclassic period. Only one paper describes and discusses the architecture of the Late Preclassic period and its relationship to that of the immediately sequential Early Classic phases. (6)

Bartel, Brad (Missouri, Columbia), LOCATIONAL ANALYSIS OF THE ANATOLIAN EARLY NEOLITHIC. Factor and locational analysis has delineated a distinct grouping of settlement complexes in the Early Neolithic. A shape index and nearest-neighbor analysis have shown sites to be uniformly spaced in a circle, approaching hexagonal fields of interaction with the large "town" of Catal Huyuk in the center. To account for the highly efficient obsidian exploitation, a corridor configuration of transport networks is hypothesized. Settlements show a pattern of socioeconomic alignment to a "gateway town" (Catal Huyuk), and further to the area of resource (salt and obsidian). (41)

Barlow, Albert B. (Brown), THE EXPERIMENT IN ARCHAEOLOGY: A COMPARISON OF TWO CASE STUDIES. A critical comparison is made between 2 recent case studies in American archaeology, The Dynamics of Stylistic Change in Anikara Ceramics by Deetz, and Architectural Evidence by Hinnant. The nature of the interplay between these two is examined as a standard of comparison that results in a lesson about archaeology as a science. (23)

Bas, Louise (Vermont), THE BOUCHER SITE (VT-F-261): IMPLICATIONS FOR THE STUDY OF EARLY WOODLAND MORTUARY PRACTICES IN VERMONT. The Boucher site has yielded the most extensive, documented evidence of an Early Woodland cemetery site in the Northeast. For purposes of comparison, 187 long bones were collected from the site and analyzed in order to assess the mortuary practices observed. Mortuary practices, as determined through the examination of the long bones, are deposited, in most cases, with some of the following attributes: red ochre, graphite, copper beads, "blocked-end tubes," "Beaver tail" (Adena style), points, Martiellae, and other artifacts. A number of artifacts are found associated with human remains, materials foreign to Vermont. Organic preservation at the site was relatively good with 82 features containing human skeletal material and/or artifacts. The Boucher site relates 3 poorly reported sites in Vermont assigned by Ritchie to his Middlesex phase: the East Creek site (Rice Foundation, 1934-36), the Swanton Burial Ground (published in 1871), and the Boucher site itself. A summary of the Boucher site data, and its implications for the reassessment of the data from other similar sites in Vermont, is presented and conclusions are made in hypothesis for the study of burial patterns within the Boucher site. (29)

Bebrich, Carl (Northwestern), KOSTER'S STRATIGRAPHY: THE METHODOLOGY OF SITE STRUCTURE ANALYSIS. Using the Koster site as a test case and example, the methodology of stratigraphic analysis is critically examined in terms of the requirements of process-oriented archaeology. This includes the isolation of single occupations and the delineation of associations and discontinuities in the distribution of cultural and ecological items and features. Acquisition of this data is essential for understanding of settlement function and more broadly for formulating more meaningful interpretations of cultural interactions. To achieve these ends, the stratigraphy must be defined at a level which will permit the physical stratigraphy in which archaeologically significant items and features are enmeshed; (2) stratigraphic isolation of single occupations and features; (3) association analysis of the occupational sequences; and, (4) identification and separation of features within single occupations. A combined use of excavation in the treatment of occupational sequences, and (5) cross-tabulation of excavation units within defined activity and settlement contexts must be employed. In the successful excavations in the treatment of occupational sequences, the utility of testing the hypotheses of collaboration among excavation units (e.g., artifact analysis, botany, zoology, etc.) while maximizing their number in studying those habitation units that hold the greatest promise of solving basic research problems. (38)

Becker, Marshal Joseph (West Chester), MOEITIES IN ANCIENT MESOAMERICA: THE EVIDENCE ACQUIRED FROM THE EVIDENCE OF MURAL PAINTINGS AND OTHER ARCHAEOLOGICAL DATA. A recently published photograph of 2 Teotihuacan mural paintings and other related evidence from Mesoamerica appear to provide direct archaeological evidence for the existence of moieties among the Teotihuacanos. The carefully documented analysis of art forms provided by Milton enables this archaeological problem to be studied through the application of structural anthropology to Mesoamerican art forms. This approach to the nature of the archaeological evidence is itself a significant contribution to the broad understanding of an important situation that can only be studied through the various techniques of archaeology. (41)

Bentley, Gerald H. (SUNY, Buffalo), ANGLO-Saxon archaeology TODAY. The archaeological evidence for the Anglo-Saxon settlement of Brixton during the Benedictine era of St. Augustine is presented. The European tradition, the Migration to England and the Saxon dominance of England from about A.D. 450 to A.D. 1066. This paper notes some of the problems involved in archaeological research where there is some historical record. (23)

Bettinger, Robert L. (American Mus of Nat Hist), THREE PATTERNS OF PREHISTORIC SETTLEMENT IN CENTRAL AND EASTERN CALIFORNIA: THE INTERPRETATION OF THE OWENS VALLEY PROJECT, YEARS 1 AND 2. Two years of survey sampling in Owens Valley document changing resource utilization in that area. Three distinct cultural trends are indicated with ecological, climatic, and limited linguistic data are presented to account for each pattern. (13)

Bieber, Alan, Jr. (see Yveser, David) (40)

Binning, Jeanne D., and Peggy McGuckin (UCR), Alan Garfinkel (CSU, Northridge), and Ann Marr (California State Div of Highways), A METHODOLOGY FOR THE FUNCTIONAL CLASSIFICATION OF FLAKED LITHIC TOOLS. A methodology is presented using factor, cluster, chi-squares, and discriminate computer analysis to determine the relationships between variables that are considered to be germane to lithic tool function.
The resulting classifications are discussed and hypotheses made concerning their significance. The importance of such a strategy in the description of prehistoric subsistence behavior will be delineated. (26)

Binning, Jeannie (UCR), ABORIGINAL LAND USE IN SOUTHERN RIVERSIDE COUNTY, CALIFORNIA. A model based on ethnographic data is presented to describe aboriginal land use in the southern part of Riverside County, California. The model will stress resource acquisition and settlement pattern, 2 facets of land use that are best documented archaeologically. Intra-regional variations will be discussed, and a set of test implications for the eastern Mojave region will be presented. (35)

Bishop, Ronald L. (see Rands, Robert L.) (32)

Blackman, M. James (Section of Archaeology, State of Delaware), AN ANALYSIS OF JASPER ARTIFACTS AND SOURCE MATERIALS BY ATOMIC ABSORPTION AND PLASMA FLAME ANALYSIS. A sample of Pennsylvania Jaspers collected from outcrops, from quarry debris, and from workshop debris in the immediate vicinity of the quarry sites. These samples, together with artifacts allegedly manufactured from Pennsylvania Jasper and found in situ in the Delaware Peninsula, have been subjected to analysis by atomic absorption and flame photometry. The study has sought to determine if characteristic minor and trace elements (‘fingerprints’ can be found that would enable one to distinguish between 2 Jaspers with a high degree of confidence; to assign artifacts made of one of the 2 Jaspers and, if possible, to quarry groups; and, to demonstrate the utility of atomic absorption and flame photometry in the chemical analysis of artifact material. Preliminary results are presented. (19)

Blanton, Richard E. (Hunter), THE GREAT STYLES AND PRE-STATE TRADE IN THE NEW WORLD. There is nothing exactly comparable to the “Great Styles”, in the sense, to the regional exchange networks associated with the “Great Styles” in the Old World centers where pristine states evolved. The “Early Horizons” in both Mesoamerica and the Central Andes were times when small, autonomous populations engaged in regional exchange networks in which exchange involved, in part, the movement of valuable, high-status items usually invested with symbols pertaining to a powerful supernatural system. This behavior was largely absent in the Old World, I argue, generally because the subsistence pattern of domesticated animals, which were used as exchangeable items rather than valuable, sacriﬁced goods. (41)

Brow, William P., and Kurt Carr (Catholic), and James Ivor Gross (Thunderbird Archaelogical Park and Museum), THE PALEO-INDIAN RESEARCH PROGRAM. The results of research by the Paleo-Indian occupation of the Middle Shennandoah Valley are summarized. (24)

Bradt, Theodore E., (SUNY, New York), and Figueiredo, Alfredo E. (Virgin Islands Museum), SITE LOCATION PARAMETERS FOR THE VIRGIN ISLANDS, Archaeological reconnaissance of the islands of St. Thomas and St. John, and in conjunction with recently available data on the soils and plants of the islands make possible the deﬁnition of the major location parameters for ceramic culture sites on the Virgin Islands. The factors selected for analysis are (1) shelter from prevailing winds, and (2) the availability of suitable areas of upland and (and perhaps Glynn) Series soils. Rainfall, and navigational and other factors seem to be unimportant. The next step in understanding the distribution of these cultural sites to the insular environment leads directly to interesting, archaeologically testable hypotheses. (41)

Brown, Robert (Illinois, Urbana-Champaign), EXCAVATIONS AND SURFACE SURVEY ALONG RIO CALLARIA, EASTERN PERU. A series of test cuts and surface collections in 1973 and 1974 on the eastern tributary of the Rio Ucayali, Departamento de Loreto, Peru, has yielded several ceramic complexes comparable to the Pacacocha-Cuzcocha tradition described by Latrach, Myers, and others. The sites in question are, generally speaking, located in the upland and in the lower reaches of the tributary. The site selection was made on the basis of artifact data. The ﬁndings, the typology of pottery, and the control of form categories, however, are quite unlike the classic Cuzco tradition. The ﬁndings have been attributed to the Pacacocha-Cuzcocha tradition hypothesized for early non-riverine Panoan-speaking groups. This, along with evidence of extensive and enduring occupations, strongly suggest the presence of “backwards” groups in the development and spread of the Pano culture. (23)

Brew, Douglas C. (Prescott), HYDROLOGICAL ASPECTS OF THE SOUTHERN ARIZONA ECOTONE. Current hydrologic studies in the central Arizona ecotone seek answers to the following questions. What was the mean annual runoff? What was the distribution of runoff in time? How are these factors related to site location, population densities, and the nature of agricultural and water control systems? Although data gathered describe the present-day conditions, they also provide a departure point from which further analyses lead to inferences about the effects of hydrologic conditions on the prehistoric populace. (37)

Briuer, Frederick L. (UCLA), AN ANALYSIS OF PLANT REMAINS FROM CHEVLEON CANYON ROCK SHELTERS. Plant remains from dry cave archaeological sites are analyzed for the purpose of testing hypotheses dealing with the nature of depositional processes responsible for refuse accumulation in archaeological sites. Pollen as well as micro- and macroflora remains are useful for recognizing cultural and natural refuges, seasonality, human ecology, and past environmental conditions in the Chevleon Canyon region of Northern Arizona. (42)

Brooks, H. K. (see Hoffman, Charles A.) (29)

Brock, David S. (Case Western Reserve), and George Percy (Florida S.), WEEDEN ISLAND CULTURE, A REAPPRAISAL. The ceremonial centers of Weedon Island located in Northwest Florida yields several models concerning the structure of ritual in Weedon Island contexts. These structural models may be integrated with hypotheses, advanced in the preceding section, to provide a basis for a new model which in turn will attempt to be articulated with these models with regional and chronological variances, to evaluate their implications in terms of suggestions for further research. Finally, some indication of possible contributions of previous investigations will be explored. (34)

Brozek, David S. (see Percy, George W.) (34)

Brown, David L. (Washington, St. Louis), DEMOGRAPHIC PRE-CONDITIONS FOR CONQUEST IN JUNIN. The Pastoral oriented population of the Jaque-Huanayoc area suffered a demographic crisis along the lines postulated by the Boserup model during the Early Intermediate Period. The carrying capacity of the region with regard to primary pastoralism was apparently reached, forcing the population to rely on and utilize other exploitative resources. Agriculture replaced pastoralism as the primary subsistence pattern; the basin’s economic ties were strengthened along the Mantaro to the south, and the area incorporated in the pre-Huari Huarpa expansion. (15)

Brown, James A. (Northwestern), PATTERNS AND ORGANIZATION IN THE KOSTER ARCHAEOLOGICAL SETTLEMENT. This paper outlines the present status of research on the patterning of settlement in each of the 5 Archipelago Provinces. The research strategy focuses on the interpretive strategies provided by the major data classes (viz., features, artifacts and debris) and the procedures useful in eliciting patterns of site utilization. Particular attention is placed on some of the major distinctions existing between Horizons 4, 6, and 8. (38)

Brown, Jeffrey L. (Tennessee, Chattanooga), PUEBLO VIEJO SALADO SITES AND THEIR RELATIONSHIP TO WESTERN PUEBLO CULTURE. The Pueblo Viejo region of the San Francisco Valley is one of the best known archaeological areas of the American Southwest. Until recently, however, no major excavation has been undertaken by cultural-ecological research. Comparisons are made between this complex and the Salado culture of the middle Ohio, Gila basin, and the Gila basin, and the Gila basin and the Gila basin, and the Gila basin. Surprisingly, the Salado appears to be nearer to the Kayenta-Hopi and Pueblo Viejo ceramic traditions. A close cultural relationship between the Pueblo Viejo Salado complex and the Point of Pines Reserve "Western Pueblo" complex is proposed. (42)

Brown, Margaret K. (Southern Illinois), TRAVERSE SAMPLING: A CASE STUDY. The technique of traverse sampling in archaeology is discussed using the example of an historic Indian village in Illinois. Initial testing of this village by random squares proved unsatisfactory and too time consuming. A new strategy was adopted, sampling the site by random walk. This technique used to cut trenches over the entire site. This permitted authors to present a highly satisfactory for obtaining an adequate sample from the site and for the disclosure of the distribution of features over the site. This technique enabled the examination of a greater area than other techniques considered. (8)

Bruder, J. Simon, E. G. Large, and Barbara L. Stark (Arizona S.), REMOTE SENSING AS AN AID TO ARCHAEOLOGICAL SURVEY IN ESTUARINE MANGROVE SWAMPS. A FIELD TEST IN VERACRUZ, MEXICO. Many archaeological survey and mapping problems in the estuarine, mangrove zone of the Papaloapan River are solved by use of color and infrared photography. Remote sensing and aerial surveys are useful tools for identification and mapping of (1) various landforms, vegetation zones, and wetlands, and (2) archaeological sites ranging from small, low sites to clusters of large, artiﬁcially built features. Remote sensing and aerial surveys have been identiﬁed as a new and powerful tool for the identiﬁcation and mapping of archaeological features. The potential for the identiﬁcation and mapping of archaeological features has been demonstrated in the Veracruz area of Mexico. (25)

Brueggermann, Jurgen Kurt (Inst of Anthropology and History, Mexico City), STRATIGRAPHIC STUDIES IN THE VALLEY OF MEXICO: PRELIMINARY REPORT. The preliminary report of the work carried out by the Delimitation of archaeological zones inside the Mexican Republic. The result will be the unification of criteria for delimitation of archaeological zones, easy identification of
archaeological information and its codification in a clear system—of archaeological and organizational relevance. Its use is for: (1) an Information Center of archaeological data; (2) mapping of archaeological findings; (3) museal and institutional administration of the archaeological monuments in Mexico. (27)

Bruhn, Karen O. (San Francisco), THE MOON ANIMAL IN THE NORTHERN ANDES. The Moon Animal, a mythical figure prominent in the art of the North Coast of Peru, appears in several art styles of Colombia and Panama. There is no question of parallelism and analysis of the symbols of these northern representations reveals that structural this motif via several different routes and at least 2 different times. This in turn raises some questions about the nature of long distance trade from Amazonas and via the Pacific Coast of South America. (30)

Buikstra, Jane (Northwestern), BIO-CULTURAL DIMENSIONS OF ARCHAEOLOGICAL STUDY: A REGIONAL PERSPECTIVE. The study of prehistoric cemeteries and skeletal series is critical to archaeological documentation of local histories and the derivation of deductive biological models. Questions frequently asked by archaeologists concerning population size and density, nutritional status, movement, and social organization can be effectively answered through the study of the actual physical remains. The association of these skeletal series with prehistoric cultural information, such as genetic relationship and disease profiles, can only be derived from the study of skeletal series. Critical to the study of these population attributes is the effective integration of the physical remains into archaeological and biological systems. In this paper, how an interactive system that includes social, biological, and environmental factors. This paper will examine the utility of a regional program in mortuary site archaeology and the development of the human biological system. (35)

Buikstra, Jane (Northwestern), KOSTER SITE: MORTUARY ACTIVITY AND HUMAN BIOLOGY. Burial features and human skeletal remains comprise an important source of information at the Koster site. To date, excavations have indicated the presence of a cemetery area in horizon 6, as well as isolated burials in 4 other horizons. Initially, this report will define the burial program for horizon 6, emphasizing rules related to biological parameters, such as age at death, sex, and pathology. Next, skeletal indicators of environmental stress will be defined as a measure of adaptive efficiency. Finally, results from the Koster site will be combined with data from other Archaic sites in order to examine temporal change in parameters defining Archaic burial programs and the human biological system. (38)

Butler, Karl W. (Chicago), GEOFORMIC HISTORY OF THE KOSTER SITE AREA. Preliminary geoformal analyses of the Koster Mortuary Area showed that the context were carried out in 1972. A geoformal analysis from pre-Hispanic times to the present was defined for the Koster site area. Seven Holocene episodes are defined for the site, including a basement of people. Current analysis of soils is focused specifically on the problem of how these episodes relate to changing environmental conditions and human uses of the Koster locality. (38)

Carbone, Victor A. (Thunderbird Archeological Park and Mus., PALEOCLIMATOLOGICAL INVESTIGATIONS ALONG THE SOUTH FORK OF THE SHENANDOAH. Standard palynological techniques were used to examine the vegetation present in the Tina Creek area during the Holocene period. The results of this study indicate that the area was vegetated by a mixture of deciduous and coniferous trees and shrubs. (24)

Carr, Kurt (see Bayer, William P.) (25)

Carriuolo, Gary W., and Mark C. Han (U of Pennsylvania Mus.), THERMOLUMINESCENT DATING AND THE MYSTERY OF ACAMBARO. We have dated a selection of figurines from the Juszurid Collection, excavated near Acambaro, Guanajuato, Mexico. The continental and regional nature of this collection made us especially alert to any problems that may arise through the use of theroluminescent (TL) dating techniques. The results of TL dating is presented. Also, a number of special additional tests will be described. These include the use of TL sensitivity to various types of radiation, the effect of firing temperature (annealing) on the TL dates and the elemental analysis of the material and surrounding soil. (32)

Casti, Richard W. (Washington), A COMPARISON OF THE METHODS FOR ESTIMATION OF FISH SIZE FROM ARCHAEOLOGICAL REMAINS. This paper examines the various methods currently used to make estimates of fish size from the size of bones. These methods are compared on the basis of the accuracy of the estimates as tested against animals of known size and on the parsimony of each method. Some suggestions for the logical sequencing of these various methods and the differing requirements of each with regard to the size of comparative collections are discussed. (40)

Chang, Claudia (Mus of Northern Arizona), and R. Roy Johnson (Nat Park Service), THE INTERRELATIONSHIPS OF CULTURAL AND ECOLOGICAL DIVERSITY. Investigations in the central Arizona ecotone suggest that diversity in ecological systems may result in invertebrate diversity in cultural systems, since a diverse ecosystem allows for a greater number of alternative exploitative strategies. Ecologists have demonstrated that greater biodiversity results in greater ecological stability. As a consequence, in these situations we hypothesize a corresponding stability in cultural systems. Feedback mechanisms between the ecosystems and cultural systems should serve as indicators of impending imbalance of the ecological systems and, therefore, instability of the associated cultural systems. (37)

Chapman, Jefferson, and Richard A. Yanelli (North Carolina), A RECONSTRUCTION OF PALEOENVIRONMENTAL AND SUBSISTENCE PATTERNS AT AN EARLY PALEOARCHAEOLOGICAL SITE IN TENNESSEE. The Archaic site in eastern Tennessee has led to the recovery of large amounts of carbonized plant remains. Radiocarbon assays range from 6850±61 B.C. making the site the oldest stratified occupation in Tennessee analysis of the site has yielded data generally lacking for this time period. Quantified analysis of flotation samples shows almost exclusive exploitation of hickory nuts and acorns. Analysis of wood charcoal indicates a perennating climax mixed mesophytic forest with little evidence of disturbed habitats. (36)

Charkoff, Joseph L. (Michigan S.), EXCHANGE, SEDENTISATION, AND THE ORIGINS OF Agriculture in the NEAR EAST. Recent archaeological evidence for the Near East suggests that agriculture did not as a result of demographic pressures, but as part of an interactive system that includes social, biological, and environmental factors. This paper will examine the utility of a regional program in mortuary site archaeology and this cultural and biological system. (24)

Clark, G. A. (Arizona S.), L. G. Stroud (Chicago), and C. Fuentes (Inst Nacional de Villajoyosa), PRELIMINARY SITE SURVEY IN THE CANTABRIAN MOUNTAINS, BURGOS, SPAIN. A site survey was conducted in the Ebro headwaters during June-August, 1972. Following site visitation of sites the Koster Mortuary Area were located through local informants, foot survey, and by recourse to detailed topographic maps. Fifty-nine potential sites were recorded, 57 in caves and rockshelters. Ten sites were tested by excavation: 4 yielded no evidence of human occupation; 1 produced sparse Upper Paleolithic material; 5 yielded evidence of Bronze and early Iron Age industries and fauna. An Iron Age cave/open site was more extensively investigated using tests pits and a transect sampling design. Faunal remains recovered from the cave shed light on early Iron Age subsistence patterns. (4)

Clewlow, C. W., J. (UCLA Archaeological Survey), STYLISTIC AND CHRONOLOGICAL "SCHOOLS" IN OLMEC MONUMENTAL ARCHITECTURE. Three large sites, Laguna de los Cerros, San Lorenzo, and La Venta, have produced most of the monumental sculpture from the Olmec heartland. The corpus of pieces from each site may then be divided into several "schools" or "styles" based on the basis of trait definition. These "schools" are presented and discussed for cultural and chronological implications. (27)

Coe, Robert (see Stocker, Terrance) (41)

Cobean, Janice (see Rose, Jerome) (11)

Cohen, Mark N. (SUNY, Plattsburgh), ARCHAEOLOGICAL EVIDENCE FOR POPULATION PRESSURE IN PRE-AGRICULTURAL SOCIETIES. The intent of this paper is to critique contemporary methodological in prehistoric demography and to suggest several new ways to think about and identify population pressure which may be reflected in archaeological evidence. Standard methodologies have tended to underestimate population growth in pre-agricultural societies and to emphasize the role of population pressure in cultural evolution. It is argued that with increased sensitivity to additional sources of evidence, it becomes abundantly clear that population growth and population pressure are substantial characteristics of pre-agricultural societies. The results of this research may be translated to economic and technological growth culminating in the origins of agriculture. (22)

Cole, David L. (see Aikens, C. Melvin) (25)

Cole, John R. (Drew), 19TH CENTURY FIELDWORK AND BOASIAN PROFESSIONALIZATION: TWO EXAMPLES ON THE RELATIONSHIP BETWEEN ANTHROPOLOGY AND ANTHROPOLOGY. New World archaeology is a part of anthropology for historical reasons and not just because we are all students of culture. The fact that European
archaeology has remained more allied with academic history rather than anthropology departments is an example of this. Two historical factors are examined here: the influence of 19th century fieldwork and which were driven by Europeans and Americans, and the form our "institutionalization" took under the aegis of Franz Boas. Since Boas' day the marriage between classic ethnography and archaeology has been more or less faithful but frequently uneasy. Current seeds of unrest are shown to be traceable to circumstances and events long past, not just to contemporary formal theoretical concerns. (21)

Collins, Alana Corp (UCLA), THE POSSIBLE USE OF TEXTILES AS A CATECHISM DURING THE EARLY HORIZON IN PERU. The Early Horizon in Peru was dominated by the culture of the north-central sierra and Paracas in the south coast. These two groups were separated from one another by a distance of ca. 700 km. A study of Paracas pottery conducted by Menzies, Rowe, and Dawson showed the intrusion of specific elements of a class called Chavin material was known from the area at that time, but was it imported? What was its influence on the Chavin culture? In 1971 a quantity of Chavin textiles were reported from the Paracas coast. The author feels that these textiles were the vehicles which brought the Chavin traits to the coast south area. This paper presents an hypothesis to account for the presence of the textiles in an area far removed from the place of origin, and for the subsequent inclusion of the Chavin motifs in the Paracas pottery. (19)

Connely, Carole (UCR), CORRELATIONS OF ARCHAEOLOGICAL DATA WITH PIPEFLOW. Computer analysis of site types and distributions in the western Mojave Desert, provides evidence that both types and distributions vary through time. These variations best correlate with vegetation changes in the southern California desert, and support the predictions derived from ethnographic data. (35)

Connor, Judith (Arizona), PRELIMINARY OBSERVATIONS ON THE CERAMIC SEQUENCE OF COZUMEL, QUINTANA ROO, MEXICO: IMPLICATIONS FOR MAYA TRADE. The island of Cozumel, known to have been an important trade and pilgrimage center at the time of the Spanish conquest, was the focus of a joint Harvard University-Mexico National Anthropological Project during 2 field seasons, 1972-1973. The results of a preliminary analysis of ceramic collections are presented, including the definition of a tentative Cozumel ceramic sequence; a discussion of evidence for Cozumel's role as a trade center in Classic and Postclassic times; and an outline for future analyses centered on a possible shift in Maya trade networks during the Classic-Postclassic transition. (41)

Conrad, Geoffrey W. (Harvard), THE BURIAL PLATFORMS OF CHAN CHAN: SOCIAL AND POLITICAL INTERPRETATIONS THROUGH ETHNOHISTORIC ANALOGY. Chan Chan was the capital of the Inca, a powerful Late Intermediate period kingdom of the north coast of Peru. The architectural and categorical evidence of Chan Chan's political and social hierarchy is presented here through the large compounds and 9 elaborate mortuary structures known as burial platforms. Archaeological evidence and ethnohistoric analogy demonstrate that the burial platforms served as the centers of the kingdom of Chimor, that the compounds were the palaces of these kings, and that the compounds and platforms were used to forge a political alliance in accordance with a set of organizational principles common to Chimor and the Inca Empire. (12)

Cook, Thomas Gunn (Northwestern), ARCHAIC LITHIC TECHNOLOGIES AT KOSTER. The contribution here is to define technologically 3 Late and Middle Archaic phases, namely Titterington (Horizon 4), Henson (Horizon 3), and Titterington (Horizon 2) and to indicate some of the major technological differences existing among them. (18)

Cotter, John L. (Nati Park Service), HOLISTIC CONSERVATION: PERSONAL INVOLVEMENT IN SAVING SITES AND DATA. Archaeological conservation is not a selective matter of saving certain artifacts simply because they are threatened by destruction, or because they are prehistoric and finite in number, or because they are already preserved elsewhere on landmarks. Conservation is rather concerned with a whole entity of sites, artifacts, and data—each having a historical—insulating value. This is illustrated in a simple example. Archaeology as an illustrated booklet be offered to students throughout the nation. Conservation used in the high school, an important one of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the importance of recognizing the salt,4:4,5-hexadecenyl and the important...
Cunningham, Robert (Arizona), COULD FIELD RESEARCH ADMINISTRATION BE ECONOMICALLY IMPROVED AND SO AID SCIENTIFIC ACHIEVEMENT? Scientific—distinct from mere mechanical—results are seen to relate directly to administration that increases the project's director, research, and administrative cost. It is also seen as economically feasible for all but the most limited projects. Yet it is found infrequently used, causes for its non-use and means for applying it are reviewed. (7)

Dacey, Michael (Northwestern), POINT PATTERN ANALYSIS AND ARCHAEOLOGICAL SITE PREDICTIONS. (10)

Dancy, William S. (Ohio State), A CAYUSE PHASE SEASONAL CAMP IN CENTRAL WASHINGTON. Excavation of 45 IK-201 in the vicinity of Ellensburg, Washington, has produced evidence for an early 19th century campsite probably utilized in the spring months for a base camp for the collection and processing of edible camas (Camassia quamash). (28)

Davis, Jonathan G. (see Croce, Dale E.) (18)

Day, Kent (Royal Ontario Mus), THE LATE INTERMEDIATE OCCUPATION OF THE LAMBAYEQUE VALLEY. During 1973, an extensive survey was carried out in the Lambayeque Valley. The initial results of the survey are discussed and emphasis is placed upon the Chimu occupation of the valley. (12)

De Atley, Suzanne P. (UCLA), A PRELIMINARY ANALYSIS OF PATTERNS OF RAW MATERIALS IN PLAINWARE CERAMICS FROM CHEVELON, ARIZONA. Diversity in the use of raw materials in ceramic manufacture can be understood in terms of constraints operating on the potter's selection, which tend to standardize utilization of resources in terms of primary functional categories and economy of labor. A preliminary petrographic analysis was performed on a sample of plainware sherds from sites in the Chevelon Drainage, Arizona, and physical tests performed to isolate paste types that would correspond to pottery used for the categories of cooking and storage tasks. These types were used to lay the groundwork for understanding the exploitative strategy employed with regard to these resources that are available and that are technologically equivalent. (42)

De Atley, Suzanne P. (see Ericson, Jonathan E.) (26)

DeBlois, Evan I. (U.S.D.A. Forest Service), A TEST OF RANDOM SAMPLING IN ARCHAEOLOGICAL SCANNING. To test the reliability and validity of random sampling as a field survey technique, a computer-generated sampling program was applied to data collected during 3 years of intensive archaeological fieldwork in southeastern Utah. The computer program used 3 sampling parameters: 1) area size, 2) sampling intensity; and 3) number of sampling repetitions. The program allowed the testing of various combinations of area size and sampling intensity, which were the most efficient were then tested against survey data from 4 areas. Results show that sampling units of medium size (300-700 meters on a side) produced the most reliable results. Sampling intensity verified the square-root relationship between observations and accuracy. (8)

DeBoer, Warren R. (Queens, CUNY), THE ARCHAEOLOGICAL EVIDENCE FOR MANIOC CULTIVATION: A CAUTIONARY NOTE. In the humid tropics of the Americas, where preservation of plant materials is unlikely, archaeological evidence for manioc cultivation largely consists of artifacts which are similar to artifacts associated with maize cultivation in the ethnographic record and which, by analogy, were similarly used in the prehistoric past. The validity of this inference by analogy is examined in terms of ceramic platters and stone grater teeth, 2 of the most commonly cited evidences for manioc cultivation. (27)

Dekin, Albert A. (SUNY, Potsdam), THE WALRUS AND THE POLISHED BURIN: A POSSIBLE DYNAMIC DUO FROM EASTERN ARCTIC PREHISTORY. Recent discussions of the paleoecology of the eastern Arctic have utilized the concept of a "core area" in which Pre-Dorset flourished and developed into Dorset culture and from which ideas and populations have spread into peripheral areas of the eastern Arctic. As one step toward the testing of this concept, this paper explores the coincidence of the range of walrus during the historic period and the utilization of increased numbers of polished burin types and seal blubber that polished burins were invented to increase the efficiency of grooving ivory is presented. (16)

Dennis, Arthur (Arizona Archaeological Center), ANTELOPE HOUSE PROJECT: THE NATURAL VEGETATION. This ethnobotanically oriented report illustrates that from Anasazi times to the present day, 7 distinct plant associations have been available for human exploitation within the boundaries of Canyon de Chelly National Monument. These groups, in order from greatest to least extent, are: Pine-Juniper, Cottonwood; Canyon Bottom Communities; Sagebrushland Communities; Low Shrubby-Grassland Communities; Canyon

Rim, Cliffs, and Ledges; Talus Communities; Springs, Seeps, and Other Wet Places. Familiarization with the vegetal subsistence and raw material base of the Antelope House inhabitants is done using photographic slides. Florisitic composition, areal distribution, topographic settings, and the forms specific human uses are considered. (11)

De Pena, Allison (Pittsburgh), THE CHIMU OCCUPATION OF QUEBRADA PARINAS AND THE CHIRA RIVER VALLEY. The Chimu occupation of the Chira Valley and of Quebrada Parinas, represents the first well-defined state level organization in this area of the Andes. The settlement-surface pattern of Quebrada Parinas, reflects small village farming units in the interior and fishing villages on the coast. The ceramic and settlement pattern evidence for the emergence of the Chimu state in extreme northwest Peru will be discussed and contrasted with that of the Sechura period. (12)

DePuy, C. H., Sandra Quinlivan, and Mary Ann Tomasko Perry (Colorado), THE IDENTIFICATION AND CHARACTERIZATION OF PRE-COLUMBIAN PERUVIAN POTTERY. This paper describes the potential advantages of extremely small sample sizes and the steps necessary for successful identification of the complex, yet reproducible, fragment patterns exhibited by most dyes in the mass spectrometer. Indian, for example, carnelian is tentatively identified by placing an extremely small thread directly in the heated probe of the instrument. More rapid dyes require prior extraction from the fiber. Advantages and limitations to the method will be illustrated with reference to Peruvian and other Pre-Columbian textiles and wall paintings. (32)

Dort, Wakefield, Jr. (Kansas), ARCHAEO-GEOLGY OF JAGUAR CAVE, UPPER BIRCH CREEK VALLEY, IDAHO. Recently, a series of stratigraphic sections was made in the coast zone of Idaho. The purpose of these sections was to determine the stratigraphic differences between the north and south sides of the channel and to determine the nature of the deposits. The results of these sections are presented in this paper. (28)

Druss, Mark (York, CUNY), CHUCHIU COMPLEX PHASE SEQUENCE. An 18 phase sequence, based on 8 radiocarbon dates, 21 stratified components, and 43 feature occurrence was, presented for the Preceramic Chuchiu Complex, ca. 2700-1400 B.C. to 2000 A.D. The sequence includes the initial occupation of the site and a number of other cultural phenomena, the latter being sensitive indicators of temporal change. Attributes rather than types were used to avoid the proliferation of local problems of type definition. The sequence is presented in a form that can be used as a basis for the study of the settlement and subsistence systems of hunter-gatherers. (36)

Duffield, Lathel F. (Kentucky), CALORIC VALUE: AN AID IN RECONSTRUCTING PAST ENVIRONMENT. A wide variety of techniques is used for the determination of the energy value of various foods. One of the most common methods of determining the energy value of plant foods is by performing calorimetric analyses on samples obtained from the environment. These analyses provide information on the potential energy content of plant foods in the past and can be used to infer the sources of energy used by past populations. (36)

Dwyer, Edward B. (see Dwyer, Jane Powell) (16)

Dwyer, Jane Powell (Brown), and Edward B. Dwyer (Rhode Island), THE DEVELOPMENT OF CLIMATE ThEMS IN THE EARLY INTERMEDIATE PERIOD ART OF SOUTH COASTAL PERU. A study of a carefully controlled sample of decorated materials dating from the Early Horizon epoch 10 through Early Intermediate period 2 suggests that there was a consistent interest in depicting mythical themes to concern with both the natural world and scenes of a more secular nature. It is argued that this is an artistic manifestation of important cultural changes which can be seen to be taking place in south coastal Peru. The archaeological record is examined to determine the degree of correlation between the iconographic systems and the social, political, and religious patterns of the Early Intermediate period. (16)

Dyreson, Del (Florida State), BOUNDARY AND SPATIAL ASSOCIATION ANALYSIS WITH PELTO'S FUNCTION AND RELATIVE ENTROPY. Some study techniques for analyzing spatial relationships in ecology are evaluated. Two specific techniques require "nice" statistical distributions of variables. This type of analysis is aimed at detecting spatial association in multicomponent systems. The analytical results make possible the mapping of both the association and the location of potential boundary positions. (16)

Earle, Timothy K. (UCLA), INTERSOCIETAL EXCHANGE DURING THE EARLY INTERMEDIATE PERIOD ON THE CENTRAL COAST OF PERU. Exchange systems articulate the local organization of a specific population with the regional interaction of several populations. Therefore, exchange is a characteristic of local problems of adaptation. During the Early Intermediate period, the 3 state societies of Moche, Lima, and Nazca dominated the coastal areas of Peru. Previous research has analyzed
these societies without reference to their interactions with contemporaneous, non-state society that occupied peripheral valley sections; but it is felt that analysis of such interactions is necessary to explain the development of state organization. Various models of interaction and non-state societies have been proposed for Lucan Valley populations. Specific models include linear exchange, middlemen exchange, and peripheral markets. [15]

Ebert, James F. (see Lyons, Thomas R. [8]: Hitchcock, Robert K. [8]; and Taylor, Richard L. [21]).

Edy, Frank W. (Colorado), A SETTLEMENT MODEL FOR RECONSTRUCTING PREHISTORIC SOCIAL ORGANIZATION AT CHINNIE ROCK MESA, SOUTHERN COLORADO. Interpersonal relations at prehistoric Chiricahua were linked by group affiliation in terms of kinship, economic, ritual, locality, and cultural considerations. The social groups derived from these forms of integration have been "read out" of the pattern of economic organization according to a model proposed by Trigger with analytical procedure suggested by Clarke. (13)

Ericson, Jonathan E., and Suzanne P. DeAlley (UCLA), TIJUANA B.C. REVISITED: MORPHOLOGY AND CAPACITY OF VESSELS. A set of modern Tijuanas vessels has been used to test some problems involved in the reconstruction of the morphology and capacity of prehistoric vessels. The technique employs a cladistic approach to a suite of morphological criteria to partition and reconstruct the modern assemblage. The results of these experiments are presented. (26)

Fioro, Donald C. (Mus of Northern Arizona), PREHISTORIC RESOURCE UTILIZATION PATTERNS ON A TRANSPLAN FROM GLEN CANYON TO THE SALT RIVER VALLEY. From 1970 to 1971, the Museum of Northern Arizona conducted site surveys and excavations along a power line project having a 330-foot wide right-of-way, extending 256 miles from Page to Phoenix, Arizona. This transect crosses the 6 major environmental zones in Arizona—plains, mountain, transition, and desert—and portions of 6 prehistoric cultural areas. A total of 88 sites was recorded, of which 24 were tested or excavated. Differential patterning in settlement locations, architecture, and functionally related artifact assemblages is observed, and an increasing alignment with these variables is also noted. Among the important researches conducted during the project was the investigation of a previously unknown archaeological area, Perry Mesa, in central Arizona. (42)

Figueroa, Alfredo E. (Virgin Islands Mus), THE ARCHAIC PERIOD OF ST. THOMAS, VIRGIN ISLANDS: A CASE STUDY IN HISTORICAL AND ARCHAEOLOGICAL PROCESSES. A case is presented to demonstrate that the history and archaeology of the Virgin Islands Mus have added 3 Archaic sites to the 4 already known. Excavations at these sites and at Krum Bay have revealed new evidence that will raise many questions for the future. It is further suggested that the Krum Bay complex and its related sites provide the best example of the influence of the Bella Vista culture on the Virgin Islands. (43)

Figueroa, Alfredo E. (see Bradstreet, Theadora E.)(41)

Fitzhugh, William (Smithsonian), THE BRADOR TUMULI: EARLY BURIAL MOUNDS ON THE STRAITS OF BELLE ISLE, QUEBEC. Recent research by Rene Lavoie has resulted in the discovery and excavation of 2 tumuli of stratified sand and rock construction. A slab-lined burial chamber containing a deposit of ochre and ground and chipped stone tools has been found. The base of the mound produced radiocarbon age of 3280±40 B.P., suggesting earlier use of mound burials than known elsewhere in eastern North America. (29)

Foss, John L. (Maryland), PEDOLOGICAL INVESTIGATIONS ALONG THE SOUTH FORK OF THE SHENANDOAH. Soil analysis of the Thunderbird and associated archaeo- logical sites, has provided considerable insight into soil formation and alluviation, the conditions under which soils form and the rates of soil formation. This knowledge has led to a more intensive study of pedological processes in the Shenandoah Valley. (44)

Fowler, Melvin L. (Wisconsin Mus), CHUNKY STONES, SHEET COPPER, AND OTHER ARTIFACTS FROM MOUND 72. The artifacts from Mound 72 are considered to be significant evidence for the early use of copper by prehistoric peoples. They are analyzed in terms of their form and location within the burial mounds. The chunkey stones are considered to be the earliest use of copper. (11)

Fowler, Melvin L. (Wisconsin Mus), INTERPRETATION OF BURIAL DATA, STRATIGRAPHY, AND ARTIFACTS FROM MOUND 72. The physical data show a definite sequence of events in the construction of Mound 72. The positioning of the individuals within the mound suggests a stratification of the persons included in this burial complex. It is suggested that the sequence of events and the positioning of the burials indicate a special treatment for 1 or 2 individuals at the time of their death, the inclusion of other segments of the community in the burial mound. This is followed by specific burial ceremonies to commemorate the social status these highly placed individuals had. The types of burial goods accompanying the burials were considered to be significant economic relationships over much of the Middle Eastern United States. (11)

Frederking, Marie K. (Kenyon), AN ARCHAEOLOGICAL INVESTIGATION OF THE RIVER CANYON. The first season of this project was to evaluate the Relation de Michoacan as an ethnohistorical source. The preliminary results of this investigation are presented in a brief review of the Michoacan culture and its archaeological evidence in support of this migration and other archaeological evidence. Since archaeological investigation showed no evidence to support the Relation's account, alternative explanations were sought. Migration by a lineage or clan group is suggested as a more likely scenario. (40)

Friedrich, Margaret E. (Loyola), THE FUNCTION BETWEEN MOTOR HABITS AND THE COGNITIVE STRUCTURE: INSTANCES IN DELIBERATE CHANGES IN PAINTING TECHNIQUE. This paper attempts to assess the role of motor habits and the cognitive structure in the development of style in prehistoric and historic painting. The complex of tools, materials, and techniques for the use is described. Variation in the design system is analyzed at the level of design element and brainstorm. Differentiation in the organization of the design structure is examined. Instincts in which a painter deliberately manipulated the manner in which he rendered design elements are given. A mechanism for conscious variation of style below the level of design element is described. (17)

Fry, Gary, and H. J. Hall (Youngstone), HUMAN COPROLITES FROM ANTELOPE HOUSE: PRELIMINARY ANALYSIS. Preliminary analysis of the human coprolites from Antelope House in New Mexico indicates that the process by which these resources were greatly supplemented by a wide variety of wild plant foods, apparently indicative of adaptation to a broad spectrum of paterns of resource utilization. Meat consumption is inferred from the presence of hair. The analysis has demonstrated the presence of the ubiquitous, but exclusively human, pinworm (Enterobius vermicularis); as well as possible infestation by other parasitic nematodes (Ascaris and Acanthocephala). In addition free living mammal nematodes and mites have been identified in the samples. (1.2)

Fuentes, C. (see Clark, G. A.) (8)
Fulcher, John W. (Washington), DEVELOPMENTAL CHANGE IN PREHISTORIC COMMUNITY PATTERNS: EVIDENCE FROM WEST VIRGINIA, Two seasons of intensive systematic survey and controlled surface collection in the northern Panhandle of West Virginia have been designed to determine the developmental sequence of Late Prehistoric communities. Earlier work in the area showed that the size of hamlet-related community forms—very small hamlet communities and much larger, denser town communities. During the recent fieldwork evidence was recovered that would indicate that nucleated hamlet formation is the result of the coalescence of several hamlets, rather than the growth of individual hamlets. Several new hypotheses regarding the development of the area settlement pattern will be discussed. (29)

Fulcher, Steven L. (Mus. of Northern Arizona), INVESTIGATIONS NEAR GANADO, NORTHERN ARIZONA: A TEST CASE FOR CONTRACT ARCHAEOLOGY. In 1973, the Arizona State Museum, with funds from the National Park Service, undertook an archaeological excavation in the vicinity of Ganado, Arizona, under a contract with the Bureau of Indian Affairs. A total of 13 sites were excavated in a single season ranging in date from basketmaker to historic periods. (31)

Gardner, William M. (Catholic), THE THUNDERBIRD ARCHAEOLOGICAL PARK AND MUSEUM: ITS CONCEPTION, AIDS, AND PURPOSES AND THE ROLE OF COMMERCIAL ENTERPRISE IN THE MIDDLE SHENANDOAH VALLEY RESEARCH PROJECTS OF THE BARBERS HILL AND FAIRFAX COUNTY, Virginia. Through a combination of indoor and outdoor displays with tours of archaeological excavations in progress, tourists, for a fee, will be able to see the results of the research program. Although a profit is anticipated for the developer, a considerable portion of the revenue will be used to support the scientific investigations and the training of students. (26)

Garfinkel, Alan P. (CSU, Northridge), THE VALUE OF FRAGMENTAL FAUNAL REMAINS: AN EXAMPLE FROM THE CROWDER CANYON ARCHAEOLOGICAL RESEARCH PROJECT. A method is outlined that can be used in the archaeology of fragmentary faunal remains. The assumption is that differences in the lengths of fragments of the same bone identified and large mammal bone fragments, are measured and compared. The method is illustrated using the faunal data recovered from archaeological sites in the Crowder Canyon Area, San Bernardino County, California. (16)

Garfinkel, Alan P. (see Binning, Jeanne D.) (26)

Garrison, Ervan, Charles R. McGimsey III, and Otto Zinke (Arkansas Archeological Survey), ALPHABET: A POTENTIAL DATING TECHNIQUE FOR ARCHAEOLOGY. Alpha tracks appear on objects which have been naturally or intentionally exposed to atomic bomb fission events. The tracks are annealed during firing and then form at a statistically standard rate related to the uranium and thorium present in the metal. Tests by the Arkansas Archeological Survey on pottery from Snakehead and elsewhere indicate that counting these tracks provides a potential method for determining the time elapsed since the clay was fired. (26)

Gilmore, Kathleen (Texas, Austin), CADDOAN INTERACTION IN THE NECHES VALLEY, Texas. The trend from nuclear centers to dispersed villages of the Caddoan settlement system is documented in Texas, is investigated. Intra-site variability coheres for 2 behavioral dimensions were obtained for each site. Test results, including ethnographic and archaeological data, indicate that variability in conservedly executed attributes is likely to reflect the movement of potters. Two sites are proposed as probably having interacted with a nuclear site (the George C. Davis site). Interaction seems to have been more closely associated with exchange in goods or services than in wife exchange. (17)

Golzofsky, Howard P. (CSU, Sacramento), THE CRITERIA OF CIVILIZATION AND OPERATIONAL EQUIVALENTS. Attempts to define civilization have argued as to the validity of writing as a criterion without considering either the function of writing or the possibility of its being replaced by something else. To write. In this paper, the possibility of such operational equivalents. The possibility that the Mochica possessed such an operational equivalent is suggested. (39)

Graham, Susan B. (Arizona), "ART" AND ARCHAEOLOGY: AN ANTHROPOLOGICAL APPROACH. This paper argues the necessity of considering the functional consequences of "art" objects and artifacts for the people who produced them. Using material from the Olmec, lowland Maya, and "Southern Cult," it attempts to relate symbols and their embodiments to social, cultural, and historical settings in which they are found. The objects were the material expressions of ritualization processes occurring as reactions to different stress situations, and further that these processes were an integral part of shifts in levels of sociocultural organization. (13)

Granger, Joseph (Louisville), CACHE BLADES, CHERT, AND COMMUNICATION IN THE EARLY WOODLAND PERIOD OF NEW YORK STATE. Recent studies of some habitation sites of Meadowood phase have disclosed that manufacture of chert tools, some of a distinctive type known as cache blades, is an important activity. This activity is represented by localized collection from raw material to finished products. The production sequence is discussed along with the nature and location of high-grade Onondaga Chert sources from which the material of cache blade manufacture is derived. Exemplars of these chert sources are shown, and the suggestion that a cache blade; network operating along Late Archaic trade routes that burial inclusions of these items may represent disposal of surplus blades from this trade cycle in ways that do not allow recovery of the social system and the spatial organization of communities. (19)

Graybill, Donald A. (Georgia), MEASUREMENT OF THE AMOUNT AND RATE OF SITE DESTRUCTION IN SOUTHWESTERN MEXICO. Current professional literature describes the spoilage of archaeological resources and current popular literature reports qualitative accounts of site or artifact destruction, yet few accurate data bases are available that provide information regarding both absolute and relative rates and proportionate rates. A 100% survey of about 60 square kilometers in the Mimbres Region, New Mexico, provided continuing observation and measurement of nearly 200 published sites. Methods of measurement, techniques of recording, and factors influencing the mobility and destruction of archaeological sites will be discussed. (42)

Gratton, Donald K. (Kirkland C), THE RIVERHAVEN NO. 2 VERTEBRATE FAUNA: COMMENTS ON METHODS IN FAUNAL ANALYSIS AND ON ASPECTS OF THE SUBSISTENCE POTENTIAL OF PREHISTORIC NEW YORK. Riverhaven No. 2, an Early Woodland site located in New York, has yielded a large collection of bones of 2900 identified animal bones and bone fragments obtained by 2 different excavation strategies. The comparison of the minimum numbers of individuals from these 2 strategies is discussed and the importance of vertebrate bone data in the animal economy. The comparative study of all identified New York archeofaunas of sufficient size allows statements concerning food mammals favored by the prehistoric occupants of New York State during the 5000-year period, and comments on the subsistence productivity of New York's deciduous forests. These statements are made. (40)

Grebingr, Paul (Eisenhower), HOHOKAM CULTURAL DEVELOPMENT: EXPANSION AND ABANDONMENT IN THE SANTA CRUZ VALLEY OF ARIZONA. The problem of the Hopi is to provide a model of the development of the tributary drainage basins of the Gila and Salt Rivers. This model has not received systematic treatment since Schreoder's (1965) synthesis. The aim of the present paper is to show that the effects of the Hopi system development on the environment, both natural and cultural, were dependent on the degree of population expansion, and, therefore, on the degree of environmental changes. The model is based on the study of the Hopi system development in the Santa Cruz Valley between 1500-1700 A.D., when there was a significant increase in the number of inhabitants. Preliminary tests of 2 different aspects of the model have produced both positive and negative results. (42)

Green, Stanton (see Paynter, Robert) (25)

Greengo, Robert E. (Washington), PREHISTORIC ARCHITECTURE IN NORTHEASTERN GUERRERO. Most sites recorded thus far in the region of the upper Rio Tepexacoalco have architectural remains that tend to be primarily located on low hills and uplands. Construction materials and techniques used were likely to have been different from those used in the lower portions of the valley. Although the Mesoamerican structure-plaza arrangement is well represented, rectangular, pyramidal substructures are uncommon and may have been quite late in the region. (21)

Grenier-Ravit, Ronald A. (VMH), THE QUINTESSENTIAL ROLE OF OLMEC IN THE CENTERAL HIGHLANDS OF MEXICO: A RESTATEMENT. The ceramic assemblage that characterizes the late Classic phase (Late Formative to Terminal Classic) of the Olmec area is known as the Olmec phase. This phase is characterized by a number of distinctive ceramic features, such as the presence of large, rounded stone vessels, the use of a variety of clay types, and the production of large, decorated vessels. Although the Olmec phase has been well documented in previous studies, the question of its origins and the role of the Olmec in the development of the Classic period has not been fully answered. (24)

Gross, James L. (see Bayer, William P.) (24)
Grossman, Joel W. (Brooklyn, CUNY), EARLY INTERMEDIATE PERIOD SETTLEMENTS AND THE IMPACT OF HUARI IN THE SOUTH-CENTRAL HIGHLANDS OF ANDAHUAYLAS, APURIMAC, PERU. From 1565 to 1971 a combined program of site survey and excavation in the province of Andahuaylas revealed a long sequence of Pre-Inca ceramic cultures. Although radiocarbon determinations are not available for the later part of the sequence, based on stratigraphic and stylistic evidence an argument is made that the Qaswarika style replaces the Early Intermediate period occupation in the area and that this style persisted in time until, and possibly after, the advent of Huari influence in the Middle Horizon. The Qaswarika people developed a local indigenous fancy pottery style. Although some Huari influence is evident toward the end, it appears that the Qaswarika style may have continued as a prestige ware into the Middle Horizon. Although the evidence is inconclusive, some tentative speculations are warranted concerning the nature and impact of Huari influence in the region. (16)

Guernsey, George J. (Southern Illinois), THE CENTRAL ARIZONA ECTONITE PROJECT. This project provides a history and an introduction to the geologic features and goals of the Central Arizona Ectonite Project which forms the base of this symposium. Participants in this interdisciplinary project are working with the broadly stated hypothesis that chemical environments are variable during times of interest. Chemical environments are defined as the interaction of the chemical composition of the rock with the composition of the plant and animal species and that in these situations human behavioral systems have also increased diversity and variety. Thus areas of cultural diversity are usually characterized by archaeological zones and the transition between the Hohokam and prehistoric Pueblo-like groups and between the low and high deserts of central Arizona. (17)

Gunn, Joel (Pittsburgh), INDIVIDUAL STYLE VARIABILITY IN BIFACIAL CHIPPING. Individual style variability in bifacial stone chipping could be helpful in delineating economic and social practices in prehistoric societies. In this paper several sources of style variability are isolated and a tentative model suggested to explain individual variability. Scar pattern orientation is tested for ability to discriminate between modern stone knappers. Laser diffraction is used to convert the scar patterns into numerical data. Principal components and discriminant function models are developed and tested for applicability. The results indicate that scar patterns can contribute to the identification of individual knappers. (18)

Hall, Dolores A. (Catholic), THE PREHISTORIC SITE SURVEY PROGRAM IN THE MIDDLE SHENANDOAH VALLEY. The methods and techniques of site location surveys, controlled surface collection, and a discussion of the prehistoric settlement system are outlined. (24)

Hall, H. L. (see Fry, Gary) (1, 2)

Hall, Robert L. (Arizona Archeological Center), CULTIVARS FROM ANTELOPE HOUSE. A review of the prehistoric, historic, and ethnoarchaeological finds from the Antelope House area of north-central Arizona. The focus is on the domestication of the maize. (1, 2)

Hammond, Nosan (Cambridge), ARCHAEOLOGICAL INVESTIGATIONS IN NORTHERN AND CENTRAL AMERICA. 1973-1974. Work conducted at the Museum/Cambridge University Corozal Project. Following a site survey and establishment of a regional ceramic sequence in 1973, work has been concentrated at the major ceremonial center of Xunantunich; the field project is entitled: the excavations there. (21)

Han, Mark C. (see Carns, Gary W.) (12)

Handman, Russell (McNutt, Charles) (31)

Hansan, Deborah J. (see Johnson, Lewis) (26)

Hansen, Douglas (Mus of Northern Arizona), NUTRITION AND DISEASE IN A BIOLOGICAL AND CULTURAL TRANSITION ZONE. A disease model is used to analyze the ecological concept of ecotone as parameters are derived for the Southwest. The disease model is used to discuss the clinical, cultural, and ecological implications of the disease model on the major environmental zones and cultural areas of the prehistoric Southwest. Iron deficiency anemia and protein malnutrition as it is manifested in human skeletal material will be discussed at length. (31)

Hanson, John A. (Mus of Northern Arizona), and Steven C. Sessions (Arizona State Mus), THE ROLE OF CULTURAL DIVERSITY IN THE EXPLOITATION OF THE CENTRAL ARIZONA ECTONITE. This paper focuses on the prehistoric exploitation of a transition zone marked by a physiographic and biological heterogeneity expressing ecological diversity. This ecotonal area appears to have been exploited by 2 distinct cultural systems, their uniqueness, in part, being due to different exploitative systems. We propose that: (1) where 2 cultural systems are in direct competition for land characterized by ecological diversity, that system possessing the less specialized exploitative strategy will be best equipped to utilize the resources of that ecological zone; (2) an early northern movement represents the expansion of a specialized economic system based on irrigation agriculture; and (3) the later southern and western movement into the area are representative of a diverse exploitative strategy. (37)

Harbottle, Garman, and Edward V. Sayre (Brookhaven Natl Lab), SCOPE AND ANALYTICAL PROCEDURES OF THE BROOKHAVEN PROGRAM OF NEUTRON ACTIVATION ANALYSIS OF POTTERY. Clay fine particles from possible Mesoamerican ceramic source areas and ceramic samples drilled from sherds of archaeological interest have been analyzed by the technique of neutron activation followed by gamma-ray analysis. The introduction of the new neutron bombardment techniques permit the determination of about 20 elements. We have also utilized x-ray fluorescence measurements to estimate 3 additional elements—nickel, calcium, and titanium—in sherd and clay materials. (12)

Harbottle, Garman, and Edward V. Sayre (Brookhaven Natl Lab), and Phil C. Welgand (SUNY, Stony Brook), THE TURQUOISE ACTIVATION PROJECT: PROGRESS IN DATA HANDLING TECHNIQUES. The problems of dealing with large artifact and source sample populations have required the development of refined data handling techniques. In order to cluster artifacts on the basis of their chemical similarities, computer programs in numerical taxonomy are being employed. Examples of turquoise artifact and source clusterings will be presented. (41)

Harbottle, Garman (see Sayre, Edward V.) (32)

Harl, P. E. (see von Endt, D. W.) (20)

Harlan, Annita S. (Arizona Archeological Center), THE WILD PLANT REMAINS, Wild plant utilization by the Antelope House Inhabitants is discussed 3 ways: (1) The behavioral chain. From ethnographic and other data, a model is created that delineates the physical evolution of the various shapes of a given plant species as it progresses from various Yucca usages is explored within this frame. (2) The seasonal availability chart. Each species has its harvest time for a given usage. The total array available in the spring is detailed. (3) The plant community store. For one plant zone, the Canyon Talus, the useful plant materials are inventoried. (1, 2)

Harlan, Mark E. (Arizona), EARLY AND MIDDLE FORMATIVE FIGURINES FROM THE SITE OF CHALCATZINGO, MORELOS, MEXICO. The results of an attribute based analysis of 2500 Early and Middle Formative figurines from Chalcatzingo are presented. The range of variability in the collection is indicated and the methodology of the computer assisted analysis is presented. The attribute based analysis is related to the traditional figurine typology from the Basin of Mexico and the relative utility of the 2 types of analyses for solving various kinds of archaeological problems is assessed. (21)

Harlan, Mark E. (see Manire, Larry) (1, 2)

Harrison, Deborah W. (Thunderbird Archæological Park and Museum), BEYOND PALEO- INDIAN: TECHNOLOGY AND PATTERNING IN THE ARAPAHO GROUP. The Early Archaic continuum from the Flint Run area does not provide the framework for understanding the Middle Shenandoah: however, analysis of private collections and strata cuts in selected sites are providing the beginnings of a chronology of the Middle Shenandoah during the Middle and Late Archaic. This important period is at present little known in this area, but the recent series of investigations has provided considerable insight into cultural patterning and process during and following the establishment of the Eastern deciduous forest. (24)

Healy, Paul F. (Harvard), THE GUAMUL CAVES: PRECLASSIC SITES IN NORTHEAST HONDURAS. The southern border of Mesoamerica is traditionally drawn at the Ulua River of the Ballet during the Early Classic period. The central Arizona ecological zone, the Department of Colon, northeast Honduras, provides the earliest evidence of aboriginal occupation in the region and extends the established chronological sequence back 1000 years or more. The research program includes the study of environmental and sociocultural patterns, and a comparison to other Preclassic sites indicates that native Honduras, despite its later affiliation with Lower Central American cultural patterns, was probably participating in the cultural developments and long-distance trade networks (ca. 2000-400 B.C.) of Mesoamerica. It is possible that the cultural frontier of Mesoamerica in the southeast was extended eastward for the Preclassic time horizon. (6)

Helmint, James M. (Dayton Mus of Nat Hist), and Louise Robbins (Mississippi S), INCINERATOR SITE (3 My 57), A POSSIBLE FORT ANCIENT FRONTIER SITE, Incinerator Site, an Anderson Focus-Fort Ancient site, is located on the flood plain of the Great Miami River in Dayton, Ohio. Excavation within the circular stockade has revealed apparent rigid
patterning of concentric rings of houses, trash pits, and burials about a central plaza that appears to have contained some type of structure yet to be identified. The distribution of the pottery types and burial styles indicate that each household controlled the use of the area in front of their houses. The range of the ceramics on site and the physical variation within what appear to be family grave plots suggest that this was a cultural frontier site. (29)

Hellmuth, Nicholas M., PETER YTZA MAYA AGRICULTURE AND DEMOGRAPHY, A.D. 1657. Prepublication manuscripts in the Archivo General de Indias, Spain, provide fascinating data about the subsistence of the late Classic Maya. Cultivation of cacao and other crops (but not cacao), potatoes and other root crops, maize, and a dozen or so other plants with fig, guava, wild dog, and wild and domestic ducks, turkeys, provided a relatively balanced diet. Also, the Spanish from the 16th and 17th centuries provide evidence for large figures for houses and villages. Other vivid descriptions of the land and its resources allow a reconstruction of political geography and land use. More than 400 pages of manuscripts have been culled for the information to be presented in this report. This ethnographic information will contribute to our understanding of the Classic Maya of the same central Peten region. (27)

Hemmings, E. Thomas (Florida State Mus), CADES POND SUBSISTENCE, SETTLEMENT, AND DEMOGRAPHY. The Cades Pond archaeological period and culture in north central Florida was defined by Goggin 25 years ago. It was seen as a dim reflection of more complex cultures of the St. Johns Valley (St. Johns IB) and Gulf Coast (Weeden Island I) by Goggin and his successors. Subsequent excavations and analyses by the Florida State Museum and the University of Florida, especially those at the Melton Village site and Melton Mounds near Gainesville, provide excellent initial data for Cades Pond subsistence, settlement, and ceremonialism. The extent to which Cades Pond peoples were stimulated or shared in economic and ceremonial aspects of the St. Johns and Weeden Island traditions remains to be shown. Tabulating ceramic type frequencies contributes little to the solution of this problem. In the light of new evidence, Cades Pond is a significant developmental stage in the Formative sequence of central Florida. (24)

Hester, Thomas R. (Texas, San Antonio), ANALYSIS OF OBSIDIAN ARTIFACTS FROM BELEH (CHINAULTA VIEJO) CENTRAL GUATEMALA. This paper reports the results of intensive analysis of a large collection of obsidian artifacts excavated by Pennsylvania State University at the protohistoric site of Beleh ("Chinaultu Viejo"), central Guatemala. Major aspects of the research include: technological studies of the core-breakage process; microscopic wear patterns of obsidian tools; tool utilization and breakage patterns; and a consideration of the probable special distributions of the obsidian materials. Special attention is given to the horizontal patterning of obsidian artifacts, particularly the recognition of workshops and specific activity areas. (25)

Hill, Frederick C. (Louisville), EXPLOITATION OF ANIMAL RESOURCES BY INHABITANTS OF THE KOSTER SITE. More than 100 species of animals represented by hundreds of thousands of remains have allowed us to gain qualitative and quantitative distinctions among several of the cultural horizons at the Koster site in western Illinois. Comparison of species utilized, habitats exploited, seasons of occupation, trace element analysis of bone affords insights into paleoecology and paleoanthropology. The techniques that are being used to study the differences and similarities of occupation of the Koster Site over its nearly 7000 years of habitation. (28)

Hill, James N. (UCLA), INDIVIDUAL VARIABILITY IN CERAMICS, AND THE STUDY OF PREHISTORIC SOCIAL ORGANIZATION. Controlled experiments on a collection of contemporary Mexican groups demonstrate that the world of interaction and the artistry of handcrafting can be distinguished on the basis of minute quantitative differences in the ways in which individuals paint their pots. Both cluster and discriminant analyses were employed in developing a successful set of techniques for isolating this individual and unique character of each artist's abilities. The techniques have also been applied to handwritings samples with equal success— and to pottery samples from a site in the Antilles. (15)

Hirth, Kenneth Galen (Wisconsin, Milwaukee), A SYSTEM THAT WAS OLMEC: A PRELIMINARY REPORT ON REGIONAL SETTLEMENT AROUND CHALCATZINGO IN THE EASTERN TERRITORY OF MEXICO, LATE CLASSIC. Chalcatzingo, especially the Olmec presence at Chalcatzingo, Morelos is represented by La Venta style ceramics. The Olmec presence is a local Middle Formative cultural system. Results of a settlement survey conducted throughout the region suggest a regional settlement system of greater size and complexity than previously reported for any other contemporaneous area in the Mexican highlands. The lack of any regional development of similar complexity until influence from Teotihuacan during the Middle Classic suggests a regional independence upon some sort of supra-regional interaction. An analysis of the structural network of this system is attempted with an attempt at reproducing its post-Olmeic oblivion. (27)

Hitchcock, Robert K., James I. Ebert (New Mexico), and Thomas R. Lyons (Chaco Center, Nat Park Service), THE ROLE OF REMOTE SENSING IN A regional ARCHAEOLOGICAL RESEARCH. Recent archaeological investigations carried out with the use of airborne and satellite remote sensing show some faceted of the utility of remote sensing techniques in archaeological surveys. The case in point is an ongoing survey of prehistoric settlement systems at Chaco Canyon, New Mexico: this effort has included an examination of the Chacoan region for small scale survey systems using Remote Sensing of the Anasazi with the A.D. 1000-1500, it can be argued that the frame appropriate to many productive archaeological questions is the region: large areas and complex regions may be rapidly surveyed by remote sensing methods. The Chacoan region was studied by the following research design, data-to-project feedback, and a sampling regimen specific to the project examined. Remote sensing techniques, including the use of various kinds of imagery, can be applied to archaeological problems and may be used by the archaeologists in such pursuits, but can result in increased coverages over tedious traditional methods as well. (8)

Hoffman, Charles A., Jr. (Northern Arizona), and H. K. Brooks (Florida), THE GUEST MAMMOTH SITE IN NORTH FLORIDA. This paper concerns extension of evidence of the appearance into Florida of the megafauna in the late Pleistocene. The result of excavations at a site in the Silver River of north Florida. The nature of the evidence is presented: recovery techniques; man-made artifacts; cut mammal bone; paleoecology (pollen, chertly); fairly well-articulated mammal skeletons. 2 meters of overburden. (20)

Holland, C. G. (see Luckenbach, Alvin H.) (39)

Holmes, Charles E. (Alaska Methodist), ARCHAEOLOGICAL INVESTIGATIONS IN CENTRAL ALASKA DURING 1972. On the basis of test excavations in 1972, extensive excavations were carried out at the Mulp charisma site in 1972. A local sequence is suggested characterized by a laccosoloid phase and ground stone artifacts and a microblade and bone industry. While a certain homogeneity exists throughout the site, significant changes between earlier and later periods of occupation are seen. Mulp charisma was apparently occupied from A.D. 800 B.C. to A.D. 780. In addition, a stratified site was located and tested in the Nenana River Valley. Geological and radiocarbon dates indicate an age of 13,500 B.P. for a cultural horizon bearing a microblade and bone industry together with bifacial tools. (28)

Hoyt, Margaret A. (Wesleyan), CHIMU DOMESTIC WARES. A stylistic variation of Chimus domestic wares from various sites in Peru and Ecuador are described and illustrated by Uhle, Bennett, Olson, the Viru Valley Project, The Harvard/Chan Chan Project, and others. This consists of the general shape of the grave lots and of groups of vessels with provenance but without grave lot associations. (12)

Hume, Gary W. (Arizona), METHODS OF ANALYSIS FOR LITHIC SURFACE STATIONS. This paper illustrates the use of various methods for the analysis of surface lithic stations, especially workshops, by reference to fieldwork conducted on 2 Lower Paleoindian sites in Iowa and a quarry/occupation site in New Mexico. Included are accounts of downhill for temporal variation within each site, intensive analysis of lithic and structural associations, and complementary analysis (or reconstitution of cores). Overlapped core-reduction areas, details of core-reduction sequences, limited activity areas, and the identification of the raw material, retouch flakes, and scrapers involved in haft production, and data related to the size and composition of work units are revealed by these methods. (26)

Huner, John B. (Oakland), FUNCTIONAL ASSEMBLAGES OF SOME CERAMIC CONTAINERS FROM THE WHITE RIVER LOWERLANDS, ARKANSAS. The majority of containers from the White River Lowerlands contain information on stylistic attributes and hence models of prehistoric cultural dynamics are based on underlying assumptions about the behavior of aesthetic value systems. In this paper, it is demonstrated that there are limitations placed on certain aspects of the surface of the White River Lowerlands, Arkansas. By utilizing the assemblages as a model, it is constructed that, when controlled by standard stylistic taxonomy, allows models to be postulated as to variations in family size and structure as well as reveal changes in the economic systems. (26)

Ives, David J. (Missouri, Columbia), PROJECT CROQUES: AN OBJECTIVE METHOD FOR DIFFERENTIATING MATERIALS. Deterministic THEORETICAL DIFFERENTIATION. Deterministic theoretical differentiation is based on its historical development, which has traditionally been based on such factors as color, flake scar density, and a ‘grassy’ feel. These factors are based solely on observer perception and lack quantification. The strength of the methodological lies in its objectivity and the quantifiable nature of the results. Test vessels have revealed a definite differentiation in electronic charge between cherts heated in a muffle furnace and those not so treated. Similar tests indicate that the same differentiation exists in sherds from archaeological contexts and does not always correspond to such subjective factors as color and lustre. (26)
Ives, David J. (Missouri, Columbia), ACTIVATION ANALYSIS AT THE U.N.C. LABORA-
TORY FOR NUCLEAR ARCHAEOLOGY: II, LITHICS. Visual identification of chert from
archaeological sites is non-quantifiable. Because of the dependence on observer judgment
and its attendant errors, a large use of such identification is restricted. The use of Paleolithic
knives, a quarrying area can be quantitatively "fingerprinted" and distinctly separated from
other such areas via multi-elemental analysis. Lithic material from Ohio to Wyoming has
been thus analyzed, and results indicate that quarrying areas within this region are mutually
distinguishable. (33)

Jantz, Richard L. (Tennessee), Multivariate analysis of human crania: An appli-
cation to some archaeological problems. Multivariate analysis of human crania can be a powerful tool in solving biological problems within an archaeological context. The examples have been obtained from stomatological data. The affinities of populations and the role of language, culture, and geography as barriers to or mechanisms of混
also be resolved. This presentation demonstrates how such problems have been investigated in the North American Plains to resolve some key archaeological problems within that region. (33)

Jelks, Edward B. (Illinois S), OBSERVATIONS ON THE NATURE OF ARCHEO-
LOGICAL INFERENCE. The primary goal of archaeology is to make valid inferences about past human behavior on the basis of observations made on the archaeological record. The processes involved in making such inferences are analyzed, and a general deictic-inductive methodology for archaeological inference is constructed. (21)

Jenkins, Ned J. (Mount State Monument), SETTLEMENT AND SUBSISTENCE
PATTERNS IN THE WESTERN MIDDLE TENNESSEE VALLEY DURING THE TRANSI-
TIONAL PERIOD. Cultures and systems within larger ecological systems. Modern
archaeology attempts to explain the history of culture change within an ecological frame-
work. The archaeological unit to be dealt with in this paper is the transitional period, that
period of time between the end of the Archaic period and the beginning of the Woodland
period. The ecosystem is the western part of the Middle Tennessee Valley. The limited
studies of the food remains indicate that certain plant and animal genera were more im-
portant in procurement systems at this time than they were previously. Hunting and
gathering, collection of nuts, and hunting. This paper will discuss the degree to which local environmental variations differentiated subsistence activities and resultant settlement patterns. (21)

Johnson, Alfred E., and Ann S. Johnson (Kansas), A MODEL OF THE KANSAS CITY
HOPPEL REVENUE-SETTLEMENT SYSTEM. Data on the Kansas City Hoppe system and
excavations carried out by the Museum of Anthropology at the University of Kansas, are
integrated to develop a system model of subsistence practices and settlement patterns. Components of the model include an environ-
mental setting; the potential of abundant and consistent hunting and gathering territories exploited from sedentary villages and seasonally-occupied camps; potential population growth resulting in the formation of new settlement units; extensive, rapid, change to a significantly different model after 500 years of growth and development. (29)

Johnson, Ann S. (See Johnson, Alfred E.) (29)

Johnson, Charles A. (Texas Tech), DEPOSITIONAL ENVIRONMENTS AT THE LUB-
BOCK LAKE REGION. Although reported in the literature primarily as a Post-Potter period
site ca. 10,000 B.P., the Lubbuck Lake area contains a well-stratified sequence of deposits over the last 12,000 years. Geochronological evidence indicates that there is an extension of the alluvial chronology eastward across the Llano Estacado. Stratigraphic and sedimentologic studies supported by pedological evidence may provide time markers for many of the major drainage-waves of the Southern High Plains. (28)

Johnson, Eileen (Texas Tech), LUBBOCK LAKE AVIFAUNA. Few avifaunas have been
reported from Early Man sites. While bird remains are not numerous from the Lubbuck Lake site, a variety of species are represented. Remains of both migratory and non-
migratory birds are present. This paper reports an important component of life at the site and contribute to the data on the local environment, seasonality of the site and dietary habits of the aborigines. (28)

Johnson, L. Lewis, and Deborah J. (Vassar C), A TECHNOLOGICAL ANALYSIS
OF AN AGUAS VERDES QUARRY-WORKSHOP. A small quarry-workshop in northern
Chile was collected in its entirety after all retouched artifacts had been removed and
plotted. The locations of all chips were also recorded. During analysis, matching fragments
of retouched artifacts have been discovered and their dispersion across the site has been
plotted. This has led to hypotheses concerning the number of knappers working and their
location on the site. Analysis in progress is directed at discovering reasons for the breakage
of artifacts and their implications for understanding the manufacturing process. (26)

Johnson, Roy R. (see Chang, Claudia) (37)

Judge, W. James (New Mexico), AN EVALUATION OF THE OVERKILL MODEL. Martin
(1972) has recently restated his basic Pleistocene overkill hypothesis in more positive terms. He now suggests that the New World megafauna extinction is a function of an "advanced" form of hunting, the Paleo-Indian hunter. A reexamination of the Pleistocene fauna of the south north to south in a relatively short period of time. His basic model is drawn from analogy with the extinction of an area by an area of another species. From Martin's hypothesis to be sup-
ported, it is essential to secure evidence of the systematic predation of a variety of extinct
genuses by Paleo-Indian hunters of the Clovis period. A review of the existing Paleo-
Indian data from the Plains and Southwest, reported herein, indicates that such evidence is
not yet available. Evidence does suggest that a specialized subsistence adaptation, focusing on the exploitation of one species (bison) in the low-diversity Plains grassland environments where these species may have overlapped in time, rather than a complete overkill of species that Clovis adaptation may be more appropriately viewed as transitional from a broad-spectrum general-
ized subsistence strategy on the part of early pre-Clovis occupants of North America, to the specialized, resource-adapted focus of the post-Clovis period. This hypothesis is consistent with the evidence available at this time, and does not support the overkill hypothesis. (28)

Kay, Marvin (Colorado), WAX ANALYSIS AND UNIFACIAL SCRAPING TOOL MOR-
PHOLOGY: A POSSIBLE CASE OF INDIVIDUAL USE. Multiple discriminant function
analysis indicates no correspondence between edge wear and tool morphology for a sample
of 68 knives from the Midland Woodland site. The individual use is posited from this disparity in scraper morphology and edge wear and from the spatial configuration of cultural remains. The relatively general, or primitive, scraping tool morphology allowed for successful completion of a variety of tasks. As such, edge wear is variable, depending upon the task, and individual responses or preferences in tool manipulation. (18)

Kegley, George B. (see Arnold J. Barto) (41)

Kelley, James C. (Arizona), ZOOARCHAEOLOGICAL ANALYSIS AT ANTELOPE
HOUSE: BEHAVIORAL INFERENCES FROM DISTRIBUTION DATA. Zooarchaeological
analysis of vertebrate material from Antelope House in Canyon de Chelly National Monu-
ment examines occurrence frequencies of procured animal species and also relation-
ships among animals. These relationships among animals at the living animal level are
in domestic animals are suggested from distributional analysis of archaeologically recovered material. Preferred area utilization or prescribed confinement is also inferred for the domesticates. Non-domestics are discussed as potential indicators of the abandonment of certain activity spaces. (1, 2)

King, Mary Elizabeth (Texas Tech), ANALYTICAL METHODS AND PREHISTORIC
TEXTILES. The methods of analysis used in the study of prehistoric textiles and the kinds of information that can result and have resulted from them are described. Fiber, dye, and structural analyses are discussed, with examples drawn primarily from pre-Columbian Peruvian and Mexican textile studies. The paper will also note those areas that present major problems for future research. (32)

King, T. J., Jr. (UCR), PALEOENVIRONMENTAL HYPOTHESES FOR THE WESTERN
MOJAVE DESERT. Climatic and other paleoenvironmental change over the last 30,000
years with a review of past sites in the Mojave Desert. In the pinyon-juniper zones is considered in producing a predictive model for certain kinds of archaeological sites in the western Mojave. Means for experimentally checking these hypotheses are suggested. (78)

Klymovsky, Alexandra M. Ulana (Harvard), URBAN RISE AT CHAN CHAN, PERU,
ON THE BASIS OF DATA FROM INTERMEDIATE ARCHITECTURE. Chan Chan, the
large urban center in the Moche Valley, served as the capital of the Chimú empire. The
architectural remains have been divided into monumental, intermediate, and barrio. This
paper focuses on the superstructure elements or structures which support the barrio.
Features are integrated with both monumental and barrio architecture yet distinct from either. The structures are examined, first, in terms of their wide range of variation, and second, in relation to other factors. The interpretation focuses on the purposes for urban growth at Chan Chan, drawn from the data on intermediate architecture. (12)

Knudson, Ruthann (Idaho), INFERENCE AND IMPUSSION IN LITHIC ANALYSIS. Tool
utilization analysis is finding problems in observation and interpretation of archaeological
data. Frequently, such analysis involves both (1) observation and description of attributes with related functions based on as complete an ethnocultural model as possible, and (2) imputation of attributes and functions, based on what we want and expect to see. To review the conflict between these activities, a small sample of retouched flakes from a dated
compound is described and interpreted. Ethnographic verification of utilization patterns at
the site is available, and can be compared with the archaeological replication to check the validity of the method and interpretations. (42)
Kolb, Charles C. (Pennsylvania S), and James P. Loucky (UCLA), DEMOGRAPHY AND ARCHAEOLOGY: AN EVALUATION OF NAROLL AND LEBLANC'S CALCULATIONS. Raoul Naroll (1962:587-598) has devised a method for estimating the probable demographic of a particular archaeological site based on cross-cultural ethnographic analogy. Steven LeBlanc (1971:219-211) supported a more detailed and refined analysis which was more complex. The mathematical formula, however, agreed that the average floor area per person was reasonably close to 10 square meters. Neither researcher controlled their data for subsistence mode technological level, or ecological data. The population calculations have been applied to ancient populations of Southwestern Mesoamerican maize-tilting peasants. A critique of methods and results is offered, and a revision of the 10 square meter figure suggested. (22)

Koschik, Wilma W. (Michigan), THE USE OF ARCHAEOLOGICAL MAIZE IN STUDYING PREHISTORIC PUEBLO SOCIAL RELATIONSHIPS. The study of social relationships and residence patterns in prehistoric societies has long been a popular archaeological topic. Since the 1980s, maize has been a major focus of archaeological research. Variations in maize cultivation and use can provide insights into social and economic relationships. This study examines the use of maize in the Northwest Coast region and its implications for understanding social and economic relationships. (8)

Large, E. G. (see Bruder, J. Simon) (8)

Levy, Janet E. (Washington, St. Louis), A TEST OF CENTRAL PLACE THEORY IN AN ARCHAEOLOGICAL CONTEXT. Although Central Place Theory has been widely accepted in the context of modern society, its application to prehistoric societies is more limited. The theory posits that central places serve as hubs for trade and communication, with smaller settlements radiating outwards. This study applies the theory to prehistoric sites in the Midwest and examines how central places may have evolved in the past. (4)

Linares, Olga (Smithsonian Tropical Research Inst), ON THE ABSENCE OF ANIMAL DOMESTICATION IN THE NEW WORLD TROPICS: A SYSTEMS APPROACH. In spite of the potential for significant agricultural production, the tropical regions of the New World have relatively low levels of domesticated plants and animals. This study investigates the reasons for the absence of domestication in these regions and examines the implications for understanding human-environment interactions. (36)

Lindsay, Alexander J., Jr. (Mus of Northern Arizona), RESEARCH ORIENTATIONS IN CONTRACT ARCHAEOLOGY: EXAMPLES FROM ARIZONA. As part of its continuing contribution to the field of cultural resource management, the Museum of Northern Arizona has been actively involved in archaeological research. This study examines the research orientations in contract archaeology and provides examples from Arizona. (11)

Louchey, James P. (see Kolb, Charles C.) (22)

Luebke, Barbara (Michigan), CHARACTERIZATION OF CHERT SOURCES BY NEUTRON ACTIVATION ANALYSIS. The activation analysis program at the University of Michigan has been exploring the use of neutron activation analysis as a tool for characterization of chert sources. This study examines the potential of this method and its application to解决 some of the problems discussed. (19)

Lyons, Thomas R. (Chaco Center, Nat Park Service), James L. Ebert (New Mexico), Basil G. Brown (UNM, Department of Geology), Philip B. Skibo (National Park Service), E. H. M. Fladmark, The GEOLOGICAL DIGITIZATION OF PRE-ARCHITECTURE: TECHNIQUES AND APPLICATION. The authors describe a project to digitize Pre-Architecture, a database containing information on prehistoric sites in the southwestern United States. This project utilizes geological data to enhance the understanding of prehistoric landscapes and their occupations. (23)

Lynne, Joseph P. (Catholic), FIELD SCHOOLS AND STUDENTS: THEIR ROLE IN ARCHAEOLOGICAL RESEARCH. The structure, function, and value of field schools and student programs in archaeological research programs are discussed and evaluated from a student's point of view. (24)

MacNaish, Richard S. (R. S. Peabody Fdn), THE CARE AND FEEDING OF INTER-DISCIPLINARY PROJECTS. This will be a discussion and remembrances about inter-disciplinary studies in Tamaulipas and Tehuacan, Mexico, and Ayacucho, Peru. In these 3 areas interdisciplinary studies, for historical reasons, were done in slightly different ways. These are compared and discussed. Of particular importance is a discussion of how to make working with archaeologists sweet for the interdisciplinarian and his career. This means a coordination of the problems of the interdisciplinarian scientist with those of the archaeologist, with particular emphasis on what the archaeologist and his project will be able to do for the other scientists and their particular fields. A second aspect of the interdisciplinary field is that the archaeological evidence are very often the key evidence on the archaeological expedition. This means not only providing him facilities but giving him a real understanding of just what the archaeologist is doing. A third major problem discussed is the coordination of the interdisciplinary studies with each other as well as with the data of the archaeologist. The crass financial aspect of interdisciplinary studies is also touched upon and suggestions are made as to how archaeologists may save some money. (32)

Magers, Pamela G. (Arizona Archeological Center), THE COTTON INDUSTRY AT ANTELOPE HOUSE. Evidence for the range of behavior associated with cotton at Antelope House has been documented through some detailed examination of the artifact assemblage. Other research reported a detailed examination of the cotton's technical behavior chain analysis. It is hypothesized that cotton was grown in the Canyon de Chelly area and possibly traded to non-cotton producing regions. This research includes a study of the ethnographic and ethnoarchaeological techniques on the recovery of textiles and raw cotton material from Antelope House in comparison with other Anasazi sites. (1, 2)

Manire, Larry, and Mark E. Harlan (Arizona), DATA MANAGEMENT AND PROCESSING FOR NATIONAL PARK SERVICE ANTELOPE HOUSE PROJECT. The National Park Service's Antelope House project is located on the Pueblo of the Hopi, a tributary of the Hopi, in Arizona. The project involves the excavation and study of a late prehistoric Puebloan settlement. The large amount of data recovered by the National Park Service's project at Antelope House presents both a challenge and a problem in terms of management and analysis. To assist in solving these problems, the National Park Service's project has developed a data processing program called the Department of Anthropology at the University of Arizona to assist in computerizing the analytical phase of the project. As they are analyzed, the data are stored in a computerized database. The project is conducted by the Smithsonian Institution. This management and retrieval system is then interfaced with various other program systems to obtain the results needed for the architectural analysis of
the remains. This paper describes the methods used in both data management and analysis and presents a few brief examples of actual problem-solving to indicate the power and utility of the systems being used. (1, 2)

Marsh, Amanda (UCR), THE ARCHAEOLOGY OF THE EASTERN MOJAVE DESERT. Site types and distributions in the Eastern portion of the Mojave Desert reflect adaptations to drier, more mountainous environments than in the Western portion. The lack of detailed environmental data precludes a detailed correlation between climatic change and variations in site distribution through time, although the ethnographic record suggests that adaptation rather than migration was the normal response to changing environmental conditions in the desert. (15)

Martz, Ann (see Binning, Jeannie D.) (26)

Matson, R. G. (British Columbia), THE USE OF HUTCHINSON’S N-DIMENSIONAL NICHE SPACE ON CEDAR MESA. In this paper an attempt is made to apply G. E. Hutchinson’s N-Dimensional Hypothesis concept to the prehistoric Anasazi inhabitants of Cedar Mesa, Utah. This elegant concept of adaptation is shown to be applicable by first using multivariate analysis (multi-dimensional scaling) to find the environmental determinants of the present flora and then by looking at the different kinds of sites. While not all dimensions were interpretable, the majority were and clear changes through time in the environmental constraints shown in the hydropsyche are in agreement with those found by other means but important added advantages are found using the hydropsyche approach. (22)

McRide, Harold W., MIDDLE FORMATIVE CERAMS FROM THE CUAUHTITLAN REGION, VALLEY OF MEXICO. A nucleated village site of 300 to 600 persons existed on a low ridge overlooking the Río Cuautitlan throughout the Middle and Late Formative. The ceramics are very similar to other Valley sites such as Zacatenco and Middle Formative Tlatilco and Iztapaccia. The early La Pastora phase is identified by a thick black ware with geometric incisions and curvilinear incisions and by a distinctive White-on-Red ware and Red-on-White ware. The figures for this phase include type C3, C5, C9, B-C, and B. The later Cuauhtiac phase is identified by a thin black-brown ware with incised and by distinctive White-on-Red and Red-on-Black wares. The figurine style for this phase may be limited to type A. The Cuauhtiac phase was succeeded by the distinctly new ceramic complex of Ticomac and I which shows many points of similarity with the figurines and ceramics of the site of Pueblo. (21)

McDougall, Eugene J. (see Pauten, Allison C.) (30)

McDowell, Ellis E. (SUNY, Cortland), SALVAGE ARCHAEOLOGY: SOME PROBLEMS AND SUGGESTIONS. Archaeological consultants, hired by various agencies because of new antiquities legislation, are encountering unexpected problems. Systems to provide referral services, to insure use of reputable professional archaeologists, to standardize procedures, fees, and time schedules are some of the factors requiring attention. Examples and suggestions from Eastern U.S. cases are presented. (31)

McGimssey, Charles R. (see Garrison, Ervan) (25)

McQuilkan, Peggy (see Binning, Jeannie D.) (26)

Mckusick, Charmion R. (Southwest Bird Lab), AVIFAUNA FROM ANTELOPE HOUSE. Avifauna from Antelope House consists mainly of Large Indian Domestic Turkeys, some of which were apparently wild, but most of which were raised for their feathers as indicated by the presence of trace differences between wild and domesticated. The aboriginal fauna is independent of the present-day native technology development. (1, 2)

McNeely, Charles Jr., and Russell Handwerk (American), SALVAGE IN PENNSYLVANIA. (11)

Meadow, Richard H. (Harvard), ARCHAEOLOGICAL CONTEXT AND FAUNAL INTERPRETATION. The degree to which faunal remains can be used to shed light upon past lifeways depends upon the nature of the contexts in which the remains are recovered. A review of disposal practices and post-depositional activities permits identification of factors that are likely to affect interpretation. Suggestions are made which should serve to increase the validity of both intra-site and inter-site comparison of faunal materials. (20)

Metcalf, Michael D. (Mus of Northern Arizona), ARCHAEOLOGICAL INVESTIGATIONS ON A TRANSECT FROM GLEN CANYON TO THE VIRGIN RIVER. In 1972 and 1973, the Museum of Northern Arizona conducted an archaeological survey and excavations along the 170-mile long Los Angeles Department of Water and Power power line right-of-way across northern Arizona and southern Utah. A total of 61 sites were recorded, of which 32 were excavated. Seventeen of the excavated sites have ceramic components identified with the Virgin and Kayenta Anasazi and Southern Paiute traditions. The remaining sites are little known but sharing culturally diagnostic artifacts. Detailed analysis of the clipboard stone tool industries of both the ceramic and non-ceramic sites has been directed toward a description of attributes sufficient for cultural identification of the lithic sites. A study of the differing resource utilization patterns of each identified cultural group was then conducted, based on functional analysis of the lithic tools plus habitat analysis of the sites. (42)

Meyers, Thomas (Michigan), THE NEED FOR STANDARDIZATION OF RESULTS IN ARCHAEOLOGICAL CHEMISTRY. A noteworthy failure of many published chemical analyses of archaeological specimens is that no information would allow independent comparisons to be made of materials described in different studies. In dealing with this problem, the University of Michigan Museum of Anthropology has been engaged in a 62-week analytical project of 1000 chipped stone tools and obsidians. Since 1970, a great deal of effort has been spent in standardizing our procedures and results. For this we have used the U.S.G.S. rock standards W-1 and BCR-1 and the University of Wisconsin standards. From our experience, we may make several proposals concerning the comparative use of standard materials in chemical analyses of artifacts, and concerning the determination and reporting of specific results. We advocate the use of a standard approach to standardization, future comparisons of analytic results obtained by archaeological chemists will be meaningless. (39)

Mikulcik, Charles H. (Washington, St. Louis), CARBONIZED BOTANICAL REMAINS AS FROZEN SOCIOCULTURAL PROCESS: OR, YOU ARE WHAT YOU EAT, Cultivated plant remains are dependent upon man for their survival and development and may therefore be considered artifacts, indicative of past human activities. For example, Pueblo Indian farmers select seed corn according to rigid criteria, segregate varieties by field, and maintain selected varieties, as the exclusive property of a household. Careful study of the cultivated plant remains from one site enables comparison to other collections from neighboring sites. It is also possible to study the amount and nature of temporal and spatial variation within the site and compare it with similar data from other sites. While test excavations by the Cobá Archaeological Research Project during the 1972 and 1973 field seasons. (36)

Milanich, Jared T. (Florida), GENERAL AND SPECIFIC EVOLUTION OF WEEDEN ISLAND CULTURES: AN OVERVIEW. Research carried out in the Southeast since Garden R. Willey’s pioneering work on the Florida Gulf coast has demonstrated the presence of several so-called 'distinctly yet temporally equivalent cultures'. These cultures, located in the coastal plain east of the Alabama River and ranging from the late prehistoric period and from the late prehistoric to the late historic, have not participated in a similar ceremonial life while maintaining different adaptations (or adjustments) to their respective environments. These adjustments evidently supported similar levels of subsistence, though not types of subsistence, at least as far as this can be inferred from ceremonialism. The growth of Weedon Island is examined and placed in the context of Northeast prehistory and cultural processes. Also, suggestions are made for future research on Weedon Island—eastern and Weedon Island cultures. (34)

Miller, Arthur G. (Dumbarton Oaks), THE TANCAR CARACHOLOGICAL PROJECT: A PRELIMINARY REPORT OF THE 1973-74 SEASON. Archaeological site of Thacanc, Quintana Roo, Mexico, was carried out in order to collect data on site to begin to establish a complete ceramic sequence for the east coast of Yucatan from Preclassic up to Postclassic. Two major ceramic periods are distinguished, one primarily ceramic and one primarily artificial data bearing on their date of construction. The excavations were carried out with the financial support of the National Geographic Society, The Center for Pre-Columbian Studies, Simon Oakes, and Anthony D. F. Jacob, chair of the Committee of Science, and under a grant from the Instituto Nacional de Antropologia e Historia, Mexico. Plans for future intensive and extensive excavations at Thacanc are presented. (27)

Miller, Glenda F. (Catholic), THE ETHNOCULTURAL PREHISTORIC PROGRAM, OR WHERE HAVE ALL THE INDIANS GONE. Archaeological research including county histories, folklore, and recent discoveries of contact sites in the Valley are discussed, providing insight into what has herebefore been considered a Contact period no man's land. (24)

Moore, J. A., Swedlund, and G. Armezos (Massachusetts, Amherst), ANALYSIS OF MORTALITY IN ARCHAEOLOGICAL POPULATIONS. In spite of recent criticism, the life table is frequently used in an attempt to produce demographic interpretations and to test demographic theory. In this paper, life table methodology is applied to an archaeological data set in an attempt to test the effect of age variables on the life table and to compare the life table with other methods of demographic expression. (33)

Moore, J. A. (see Armezos, G.) (31)
Moren, E. Pierre (Wake Forest), A MODEL OF CULTURAL COMPLEXITY: A COMPLEX VIEW OF CHANGE IN THE AMERICAN SOUTHWEST. Information derived from cross-cultural research is used to develop a model of "cultural complexity." It is argued that the cultural system at the Salmon ruin is decreasing in complexity, and 3 hypotheses dependent on this argument are then tested with architectural data. The paper finally suggests applications of the model of "cultural complexity" to regional studies and includes additional information to support the particular application of this model to the Salmon ruin. (13)

Morris, Don P. (Arizona Archeological Center), ARCHITECTURAL DEVELOPMENT AND MASONRY STYLE AT ANTELOPE HOUSE. The development sequence of the Pueblo III pueblo at Antelope House is described and testably related to population changes within the Cibola region. Changing masonry styles are related to declining amounts of available raw material and a hypothesized need for more efficient labor. Hypothetical room functions are delineated. (1, 2)

Morland, Carol (UCR), ETHNOGRAPHIC ANALOGY IN ARCHAEOLOGICAL PREDICTION. Ethnographic data from the western Mojave Desert suggest that seasonal transhumance may have developed recently as a response to changes in the climate and vegetation, particularly the increased salinity of the playa lakes. The data of tempering modern populations allows, to some extent, predictions of the future distribution of the ancient Pima culture. (26)

Morland, Carol (see Wildeon, Leslie E.) (35)

Mountjoy, Joseph (see Weiland, Phil C.) (41)

Muller, James W. (Bridgewater S.), PREHISTORIC EXCHANGE AND COMPLETE INTELLIGENCE. Artifacts of complex or complete styles have not only been throughout the prehistoric record but are very common in some prehistoric populations. The value of incomplete artifacts has been recognized by a number of scholars, but the value of complete artifacts has been recognized by a number of scholars, but the value of complete artifacts has not been recognized. The value of complete artifacts is demonstrated with Hopewell data. (25)

Mueller, John (Southern Illinois), STYLE AND THE INDIVIDUAL. Two major problems in dealing with individual variation in style are how to identify such variation and how to account for it. This paper discusses some of the difficulties encountered, and suggests what kinds of formal solutions exist. Examples are drawn from prehistoric materials in the southeastern United States. (17)

Munoz, Juan R. (Santiago, Chile), BIOLOGICAL RESEARCH APPLICABLE TO ARCHAEOLOGICAL PROBLEMS IN SOUTH AMERICA. This presentation examines 3 problems in physical anthropology that in South America are correlated with archaeologically well-defined cultural changes: (1) artificial mummification; (2) intentional cranial deformation; and (3) the appearance of the brachycephalic populations. (31)

Munson, Patrick (Indiana), FAUNAL ANALYSIS, SAMPLE SIZE, DIFFERENTIAL DESTRUCTION, AND SUGGESTED CORRECTION FACTORS. Faunal analysis, at least as traditionally practiced in eastern North America, have proceeded essentially oblivious to the potential skewing resulting from inadequate sample sizes. Estimation of the number of individuals and (resulting meat weight equivalents) from small samples can be improved if certain procedures of analysis almost invariable inadequate samples of most species encountered in archaeological contexts. The question of what constitutes an adequate sample size remains an important issue, and the various alternatives are discussed. (40)

Muto, Guy R. (Washington S.), A PROPOSED MODEL FOR IDIOCRURAL ANALYSIS OF CHIPPED STONE IMPLEMENTS. A graphic and conceptual model is presented for culturing individual stone implements. Suggested means of separation of technological traditions at both the cultural and individual level are shown. Some particular data from the Columbia Plateau are incorporated as illustrative of its operation. The model is presented as an heuristic device to elicit comment and criticism relevant to its predictive and descriptive power. (18)

Neuman, Robert W. (Louisiana S.), COMPLICATED STAMPED POTTERY IN LOUISIANA: ITS AGE AND DISTRIBUTION. Twelve sites in southern Louisiana have yielded complicated stamped pottery. The sherds, from Saint Bernard, Tangipahoa, Terrebonne, Saint James, Assumption, Lafourche, Pointe Coupee, Vermilion, and Acadia parishes, are of the Creole ware. At least 6 different motifs are represented in and, where excavated, the sherd are associated with Troyville-Coles Creek ceramic types. (25)

O'Brien, Patricia J. (Kansas S.), A SERIATION OF STEED-KISKER CERAMICS. In the prehistoric culture area, ceramic styles are defined by a combination of production qualities and a number of non-production qualities such as forms, surface treatments, and decoration motifs. In the Steed-Kisker area, these theories are tested. Data from over 109 sites, and especially from the Young (23PL14) and Coons (23PL16) sites, are used to develop a refined stylistic chronology. The data are then integrated into the sequence from Powell Trail particularly period I. The stylistic evolution of the ceramics developed suggests northern Steed-Kisker sites are later in time than the southern ones that are stylistically earlier. That data, plus statistical information from the Nebraska pottery types in northern Illinois support the suggestion that Calapahoe that culture develops out of Steed-Kisker. (29)

Olsen, Stanley J. (Arizona), HOW RELIABLE ARE FAUNAL ANALYSES? It is a fact, accepted by most archaeologists, that determinations of animal bones must be positive ones, to be of any real interpretive value. Identifications that are "guessed" at or that are listed as positive, when in fact they are not, result in more confusion to the site analyst than if they were listed only in the broad sense. Many times overconfidence in the analyst as to his ability to recognize species or subspecies is the cause for this type of error. This and other problems of taxonomy, importance to the archaeologist, are discussed. (20)

Olsion, Gunnar (Michigan), THE IMPORTANCE OF DIALECTICS AS A TOOL IN ARCHAEOLOGY. The utility of the dialectical method in the development of spatial models of exchange in prehistoric societies is evaluated. Some of the advantages relative to other frequently used research paradigms in anthropology and geography are then detailed. (10)

Odds, David G., and Gary W. Pohl (UCLA), COMPUTER CAPERS WITH MAYA GLYPH ANALYSIS. For almost 15 years as computers have been in the measurement in the mathematical sciences has been great; yet, it has only recently that the social sciences have awakened to the usefulness of the computer. This paper describes one such use—that of computation on the hieroglyphic texts on Maya monuments. Also discussed is the development of computers for calculation of dates in the Maya calendar system, and now computers, in one instance, managed to show an error of over 1 year in a particular popularly accepted hand calculation. (27)

Orcutt, Janet D. (UCLA), PROBLEMS IN MEASURING PREHISTORIC POPULATION SIZE. The theoretical and methodological problems associated with measuring population size are reviewed. There are 3 problems: (1) a problem of form, (2) a problem of inexact measurement, and (3) a problem of interpretation. (12)

Otterson, Donald J. (see von Endt, D. W.) (20)

Osborn, Alan J. (see Athens, John S.) (33)

Ottesen, Ann (NYU), PREHISTORIC EXCHANGE SYSTEMS IN THE EASTERN UNITED STATES. This paper is concerned with the examination of the exchange materials involved in the measurement of the exchange of goods in the eastern United States, an emphasis on the Ohio, Illinois, Tennessee, and Mississippi River Valleys. The exchange networks which functioned from the Late Archaic through the 17th century have been traced. The distribution of certain non-local or exotic raw materials is a major factor in understanding the changes between those exchange patterns. This study is based on previous publications and methods. The exchange system was traced in Illinois through the use of geophysical surveys and time-series analysis. (19)

Ottesen, Ann (NYU), PREHISTORIC POPULATION SIZE ON THE ISLAND OF RAROTONGA. This paper is an attempt to derive population estimates for the pre-European inhabitants of the island of Rarotonga, one of the Cook Islands. The European missionaries who first settled on Rarotonga took a census of the whole island.
This census is tested with respect to whether the population could have increased to the recorded size from the time of the effective Initial colonization, and with respect to its relationship to the island’s carrying capacity under prehistoric subsistence activities. Then, with the addition of certain cultural traits, this estimate is used as a basis for reconstructing a tentative history of population growth during Ratononga’s prehistory. (22)

Otto, Martha P. (Ohio Historical Society). TRADE SYSTEMS OF THE EARLY AND MIDDLE WOODLAND PERIOD IN THE OHIO VALLEY. The construction of earthen mounds around the graves of particular individuals became increasingly elaborate from Early Archaic through Woodland periods and included objects that were not necessary to the Ohio Valley. There will be an inquiry into the relative importance of various materials and the strength of the contact between the Ohio Valley and the source regions for raw materials. This model will be applied to determine cultural transmission and communication. The paper considers the development of part-time and possibly full-time craft specialists, and the distribution of the finished products. Data from various sites will be analyzed to determine when and how they contributed to the finished products. The “decline” of Hopewell as it relates to trading patterns will be the final consideration. (19)

Overtree, David (Wisconsin, Milwaukee). IMPRESSIONISTIC AND PROGRAMMED TYPOLOGY—A DEDUCTIVE AND INDUCTIVE COMPARISON. Projectile points caches were excavated at the site of Mead in 1972. This study investigates the size and distribution characteristics of the projectile point caches. 1.58 acres were excavated and 396 projectile points were recovered. The projectile points were classified into discrete types. Associated with several burials, these caches were clustered as though they had been sorted into distinct and easily recognizable groups. This context lends support to the generally accepted and much debated notion of “types.” Quantitative support for the impressionalistically determined types, viz., the in situ interpretation, is provided through the use of the univariate statistics program designed by Whallon (1971) and deductive (IBM 65M, Bio-Med Package) statistical analyses. (11)

Pati, Gary A. (UCLA). HISTORICAL ANALYSIS OF THE HIEROGLYPHIC INSCRIPTIONS AT COPAN. The paper presents the results of a glyph-by-glyph analysis of the hieroglyphic texts at Copan conducted with the assistance of a computer program especially tailored for the systematics of hieroglyphic analysis. While the object of this project is specifically the elicitation of historical data and themes from the Copan inscriptions, it is hoped that the significance of labeling the full complement of hieroglyphic sites for computer-comparable data for use in multivariate analysis of potential value for site-to-site historical analysis of texts eventual pan-Maya historical analysis; linguistic analysis of glyph elements, grammar, and sentence structure on a comprehensive basis. (1)

Paul, J. Veleta (SUNY, Purchase). LATE NASCA POTTERY AT HUACA DEL LORO, SOUTH COAST OF PERU. An analysis of decorated pottery excavated in 1958, and briefly discussed by W. Duncan Strong at the site of Huaca del Loro, south coast of Peru, shows that the pottery may have been produced during the Early and Late Nasca 1, 3, 8, and 9. Pottery deposits at the site may be subdivided into three super-phases of stylistic and stratigraphic significance. This study allows us to date the initial construction of a round structure at the site, and to trace the sequence of its later additions. It is proposed that this round structure is similar to other contemporary buildings at Tras Patos II, some distance away, were both involved with ceremonial activities that may prefigure the ceremonial complex found at Paicheco during Nasca 9. (15)

Paulen, Allison C. (SUNY, Purchase), and Eugene J. McDougle (Columbia). A CERAMIC SEQUENCE FOR THE SANTA ELENA PENINSULA, SOUTH COASTAL ECUADOR. Analysis of Machalilla and Engoyor ceramics recently excavated on the Santa Elena Peninsula, Ecuador, plus 11 radiocarbon dates associated with this material, terminus ante quem for Machalilla occupation of south coastal Ecuador; (2) clarify stylistic and chronological relationships between Machalilla and the succeeding Engoyor complex; and (3) propose a detailed ceramic sequence of 6 successive phases covering the entire Engoyor occupation, a sequence that can also be placed in absolute time. The proposed sequence also enables us to distinguish and date local fluctuations in population and climatic conditions during the Machalilla-Engoyor period. Extrapolations from this sequence suggest chronological and cultural modifications of the ceramic sequence as presently defined, as well as implications for previously pro-pastorship connections between Ecuador and Mesoamerica in Machalilla-Engoyor times. (30)

Paynter, Robert, and Stanton Green (Massachusetts). SPATIAL CLUSTERING: TECHNIQUES OF DISCRIMINATION. Simulated spatial distributions are used to determine the power of different techniques in the discrimination of spatial clustering. The utility of these techniques for the analysis of archaeological data is discussed in terms of theoretical and practical concerns. (25)

Penton, Daniel T. (Florida State Mus). THE EARLY SWIFT CREEK PHASE IN NORTH FLORIDA: INTERNAL EXPRESSIONS AND EXTERNAL CONNECTIONS. On the basis of two published and previously unpublished data, the internal expressions and extra-connections of Swift Creek in North Florida are examined in terms of settlement patterns, ritual behavior, and those cultural manifestations obtainable from midden and village investigations. The North Florida culture area during the Swift Creek period is delineated and a tentative chronology within that time frame is suggested. Extra-regional relationships are discussed for Hopewellian manifestations to the north and east and for the Crystal River site in central Florida. A consideration of intra-site similarities and differences gives some insight into the relationships between secular and religious activities and indicates the widespread ritual significance of animals for the Swift Creek peoples. (9)

Percy, George W. (Florida St), and David S. Brose (Case Western Reserve). WEEDEN ISLAND ECOLOGY, SUBSISTENCE AND VILLAGE LIFE: A COMPARISON OF COASTAL AND INLAND MANIFESTATIONS IN NORTHEASTERN AND CENTRAL GULF COAST ARCHAEOLOGICAL SITES. A consideration of the prehistoric inhabitants of Weeden Island, including comments on the sense of the definition, the original data base, and problems originally recognized with the concept. Following this, a summary of archaeological investigations on Weeden Island, since this description of important ecological zones and environmental differences in the area under consideration. And, lastly, a summary of current thinking about Weeden Island, emphasizing issues relating to the relationship of the Jones site and the Land site, with a brief description of some the site and how new data may have been added to the original ones about Weeden Island. (14)

Percy, George W. (see Brose, David S.) (14)

Perry, Mary Ann Tomasico (see DePuy, C. H.) (32)

Peterson, Drexel A. (Memphis S). THE ANTECEDENTS FOR THE WOODLAND PATTERNS IN THE LOWER TENNESSEE VALLEY. Past syntheses of cultural development in the Tennessee Valley and the Southeast have set up 2 seemingly different cultural patterns. These patterns are both of equal importance in the development of the Lower Tennessee Valley, arguments will be presented for the local development of elements of Woodland culture as possibly independent from other cultural antecedents. Rather then look only at “diagnostic” Woodland pottery or Artarchic tools, the evidence for subsistence changes, settlement patterns, and burial and other religious activities will be presented in an attempt to determine the original reason for the recent arguments for independent domestication of Iva and sunflower as well as new data on continuities in shellfishing and hunting patterns are presented in relation to settlement patterns. (5)

Pettis, Michael A. (Oregon). PRELIMINARY CULTURAL SEQUENCE FROM THE LOWER COLUMBIA VALLEY. The Lower Columbia Valley has long been known to have been a major cultural focus in early and in prehistoric times. The population density and sociocultural complexity of the Chinookan peoples were among the highest in North America, and their geographic location placed them in control of communication between coastal peoples to the north and to the south, and between the Northwest Coast and the Columbia Plateau. Recent work on the Lower Columbia has indicated the existence of a preliminary cultural sequence spanning the last 3000 years, demonstrating the area's long-standing connections with both the Northwest Coast and the Plateau. (28)

Phillips, David A. (Arizona). HISTORIC AND PREHISTORIC WATER CONTROL STRATEGIES IN SOUTHWESTERN ECOTONES. The archaeological evidence for various types of water utilization systems in the central Arizona ecotone is tested against the ethnographic evidence from southwestern biological transition zones. Both the archaeological and ethnographic data are analyzed to explain how different water control systems were adopted to different sub-environments in order to maximize water utilization in this arid region. (37)

Pilis, Peter J., Jr. (Mus of Northern Arizona). POST SUNSET CRATER ERUPTION OBSERVATIONS IN THE SUGAUA SUGAUA CULTURE. A comparison of the eruptions in the villages of the Sugua Sugaua Culture in 1963 and 1964 with the volcanic increases in the Flagstaff region after the eruption of Sunset Crater in about A.D. 1066 has traditionally been used to infer population increases, colonial movements, and resultant changes in prehistoric life. Recent work in the archaeological data suggests an alternate hypothesis better explains the post-eruptive site density increases. Although domestic functions can be attributed to most post-eruptive pit houses and pueblos, the nature of the small sites, small population increases, and the site distribution data suggest that the suggest that these small sites might be field houses. These functional identifications are supported by proportional increases in the occurrence of functionally related artifact assemblages between the 2 classes of sites, suggesting that the small sites are agriculturally related. It is concluded that post-eruptive site density increases result from a change in agricultural practices and not from mass migrations of people from different cultural areas or from random population increases. (42)
from the north, with Nepean again forming the southern boundary of this tradition. The nature and interrelationships of these traditions on the southern north coast is examined in this paper. (15)

Preston, Dennis E. (Minnesota), EARLY MAN IN THE MAYA LOWLANDS: Evidence for a pre-ceramic occupation of the tropical forest lowlands of Middle America has been all but non-existent. In the summer of 1977 an open pre-ceramic plaza was discovered in the Belize. Stone tools found at the site include a wide range of crude scraper forms. Projectile points, blades, and ground stone tools are absent from the assemblage. A preliminary excavation has produced what appear to be a floor and hearths. (71)

Purdy, Barbara A. (Florida), A PROCESS OF MANUFACTURE FOR FLORIDA ARCHAIC PROJECTILE POINTS From a lithic workshop site in Marion County, Florida (Mr 122), hundreds of Florida Archaic projectile points in all stages of manufacture have been recovered. The existence of a large number of specific places in the geographic area has made it possible to determine manufacturing processes. Beginning with a nodule of Florida chert, from which a suitable flake has been detached, all stages of production are discussed including the stage at which thermal alteration took place. (26)

Purinton, Bruce L. (Appalachian), THE JONES MOUND: LOCAL MIDDLE WOODLAND TRADITIONS IN WESTERN KENTUCKY. The Jones Mound, like other known Middle Woodland burial mounds in western Kentucky, is small; few grave goods are included with the burials, and Hopewellian influence is limited. The site appears to represent a localized, relatively undisturbed Middle Woodland period cultural tradition in an area characterized by rolling topography and highly productive oak-hickory forests. This local tradition shows strong affinities with the Middle Woodland (Capotorto and Gulf (Baytown) traditions as well as influence by the Northern tradition (Adena and Illinois Hopewell). (29)

Quimlivan, Sandra (see DePuy, C. H.) (32)

Rand, Robert L. (Southern Illinois), and Ronald L. Bluhm (Southern Illinois/Brookhaven National Laboratory), PETROGRAPHIC INVESTIGATIONS OF WESTERN MAYA PINE PAST POTTERY: METHODOLOGICAL PROCEDURES AND CORRELATIONS WITH BROOKHAVEN ANALYTICAL DATA. Methods of petrographic examination and results of analysis from the Western Maya Lowlands are presented. These include selection of sherds for analytical study and the respective roles of the binocular and petrographic microscopists in the project. Some specific questions are left unanswered, but as the study has also been analyzed by Brookhaven for chemical composition, a unique opportunity is attained to view correlations from the 2, usually separate, analytical procedures. (32)

Ranere, Anthony J. (Temple), NEW DATA ON PRECERAMIC CULTURAL PATTERNS IN LOWER CENTRAL AMERICA. Recent excavation at a rockshelter in the Pacific coastal plain of Guatemala provided new data for understanding the initial stages of the region's preceramic occupation, previously known only from the excavation of the Cerro Mangote shielmden (McGimsey 1958, Am. Anti., v. 22, n. 2). In contrast to the shell middens, the method of preservation is the collection of garbage by non-agricultural peoples. The analysis of this study industry places the preceramic occupation of central Panama within a tradition extending from southern Mexico to Central America. (27)

Rathje, William L. (Arizona), THE GARBAGE PROJECT REPORT 1973: REFUSE AND RELEVANCE. Archaeologists have not been able to extend the method to urban centers. These methods can be applied to fresh garbage to obtain a new perspective on the relationships among resource management, urban demography, and specific stratification in modern conditions. The results of the project indicate that the future of archaeology will be determined by the results of the American Archaelogical Institute's Garbage Project. (27)

Redman, Charles L. (SUNY, Binghamton), THE "ANALYTICAL INDIVIDUAL" AND PREHISTORIC STYLE VARIABILITY. Conceptual foundations of prehistoric traditions and the analysis of prehistoric pueblos in prehistoric New Mexico are discussed. A system of analysis has been devised to record a diverse set of attributes in the 4 major categories of artifact variation: technological-functional, material characteristics, design variation, classification, and association. An important step in this analysis is that associated with cultural variables derived from other data. Because of the ultimate uncertainty of whether or not a specific individual is responsible for a series of artifacts, it is necessary to use a minimum of hypothetical hierarchical groups of varying size based on the relative intensity of interaction between members of the group. This hierarchical set of groups and associated measures of interaction serve as the basic analytical units for testing hypotheses. (17)
Reed, Nathan A. (Washington, St. Louis), LESSONS FROM THE REPLICATIONS OF FIVE PREHISTORIC HOUSE TYPES. Speculations on the form of prehistoric houses have often appeared in the literature. It is suggested that the best investigative technique of these forms is full-scale replication, using materials and tools known to have been available to the original builders. Assumptions must be treated in a program of experimental archaeology to avoid serious errors. Meaningful insight of an unexpected nature is often gained in the process. The results of such experiments are offered. (23)

Reher, Charles A. (New Mexico), RESEARCH ON HUMAN AND BISON POPULATIONS IN THE PREHISTORIC PLAINS ECOSYSTEM. Understanding the interactions of human and Bison populations and climate on the prehistoric Great Plains Great Platte to explain the behavior of aboriginal social units as evidenced in the archaeological record. A series of field studies and observation techniques for the study of systems of Bison sp. population dynamics (Reher 1970, 1971, 1973, n.d.). Further research is required to parameterize size and composition, multivariate statistical techniques can be used to identify patterns. Behavioral patterns are a direct reflection of the principles of labor organization and social integration of the society users. Time series analysis of varied sediments in the stratigraphy of the Vore Buffalo bones, Wyoming, offers a unique opportunity for corroboration of such patterns with a record of climatic fluctuation. (42)

Reid, Jeff Jefferson (Arizona), and Michael B. Schiffier (Arkansas Archeological Survey), TOWARD A BEHAVIORAL ARCHAEOLOGY: II. Archaeological research is now undergoing a significant shift in emphasis, and one that is beginning to transform our understanding of the diversity in data bases, aims, methods, and approaches. An attempt is made to restate these core ideas through consideration of some unresolved methodological issues that contribute to a synthetic framework congenial to all archaeologists. This paper includes: (1) the need for unambiguous context sentences; (2) the need for a comparable and equivalent among units of analysis and units of observation; (3) intradescription, and (4) multidisciplinary information flow. Explicit examples from our own fieldwork and the literature illustrate that seemingly obscure principles are actually quite simple and essential while the intuitively obvious principles, though appreciated by many, have nonetheless been neglected in application. (21)

Rheymann, Jonathan L. (Illinois St.), THE EMICS AND ETICS OF KIVA NICHES: PLACE-MENT. It is argued that the placement of architectural features, in this case kiva niches, follows analogous concepts related to directional preference. A test case is presented and discussed. (13)

Reynolds, Robert G. (Michigan), AUTOMATA THEORY AND ITS APPLICATIONS IN THE ANALYSIS OF ADAPTIVE SYSTEMS. The basic characteristics of cellular automata and computer programs are related disciplines. The utility of this concept for the analysis and simulation of adaptive systems is described in particular. Its usefulness in the analysis of settlement patterns is examined. (10)

Rhodes, Wendell D. (SUNY, Geneseo), MACAULEY COMPLEX- SITE #6, LIVINGSTON COUNTY, NEW YORK: A MULTICOMPONENT STRATIFIED ARCHAEOLOGICAL SITE. A complex manifests a multicomponent stratified cultural sequence. A complex, as defined here, is a horizontal sequence of the Macauley Complex, which is a complex. It also supports recent hypotheses regarding the postglacial development of the Genesee Valley. (20)

Richardson, James B. (Pittsburgh), THE HOLOCENE BEACH RIDGES OF THE TALARIBA COAST AND THE CERAMIC SEQUENCE, A SERIES OF 10 POST-HOLOCENE BEACH RIDGES ALONG THE CHILOE RIVER, PUNTA PARANAS, CHILE: A horizontal stratigraphic sequence essentially utilized for the identification and characterization of the Talaribas-Chile region. The utilization of these ridges by successive populations to secure littoral resources will be discussed and correlated with data from inland sites. (12)

Ricket, John W. (Michigan), DIFFERENTIATING EFFECTS OF EROSION ON THE PRESENCE OF CERAMIC REMAINS AT A PECERAMIC PERUVIAN SITE. Erosion is an important process in the distribution of cultural material in many respects, and shapes within an archaeological site. A large, provided surface collection from a preceramic site in highland Peru is examined for evidence of erosion as a possible explanation for observed variability in artifact distributions. Further research is required to define the present state of the movement of surface material at this site. It appears that this particular area of Peru, critical erosion studies will serve to limit the site area in which analysis of horizontal distributions can be expected to produce culturally significant information. (25)

Rippeau, Bruce (SUNY, Ononta), THE INTELLIGENT AND MAXIMAL USE OF RADIOCARBON DATES: EXPLICIT TECHNIQUES FOR AVERAGING, TESTING FOR MULTIPLE DISTRIBUTIONS, AND INTEGRATING RADIOCARBON CHRONOLOGIES. The third generation of calenderic corrections for radiocarbon dates are available as an ever-increasing number of dates. Approaches to Macro chronologies of absolute time for the interpretation of culture histories and to macro amounts of time such as dissecting the duration of a single site are now possible and called for. Drawing upon work by Austin Long of the University of Arizona Radiocarbon Laboratory and myself, and upon previous approaches, we present explicit simple techniques with substantial or differentiating of radiocarbon and paleomagnetic dates. Proposed statistics for radiometric chronologies are also offered for comment. (26)

Robbin, Louise (see Hellman, James M.) (25)

Roberson, Mere Greene (Robert Lewis Stevenson School), SCULPTURAL STUCCO TECHNIQUES USED AT PALENQUE, CHIAPAS, MEXICO. The methods used by the Palenque sculptors for their work were different from those used at other sites, and they built the site of Palenque itself, even from the period in the building. By detailed micro-photography, it is shown that the remaining evidence indicates just how these ancient sculptors worked and where they derived their inspiration. (25)

Roberson, Robin (Harvard), THE DETECTION OF FOOD PREPARATION PRACTICES FROM FAUNAL REMAINS. Faunal remains have long been regarded as a source of information on the cultural practices of prehistoric peoples. One aspect of such information is the study of the food preparation techniques used. This problem has been considered at all, traditionally such materials as vessels, ceramic or otherwise, heat-cracked rocks, artistic representations, historical records, or the imagination of the archaeologist have been employed. At the present, no means of determining such practices from the bones themselves exists. With this goal in mind, a series of experiments were designed to derive the desired information from the bones. This paper will first examine the technique utilized and the resulting conclusions. Secondly the technique will be applied to a series of bones recovered from the site of Dun Almaine, C. Kildare, Ireland, utilizing the unique discriminant and hierarchical group analytical procedures. The possibilities of change over time and/or differential preparation of meat according to the size of the animal or type of bone will be investigated. (29)

Robinson, Gail (Washington), SKAGIT DELTA AREA PREHISTORY, WASHINGTON. This report concerns the application of recently developed research methods to the study of another archaeological area in the northern Puget Sound area. The two areas share a number of characteristics which allow for the use of the methods. The report is in three parts: (1) the use of the area's chronology in part through the study of past and present seasons; (2) the study of the development of the area's environment; and (3) the study of the area's development. (25)

Robinson, Gail (see Wilke, Steve) (29)

Rock, James T. (Arizona Archaeological Center), ANTELOPE HOUSE METHODOLOGY. The archaeological framework that is employed in the Antelope House archaeological project operates generally within the logical-deductive tradition of the cultural system and the archaeological contextual data recovered from the site are examined through the use of transformation models. This study of these models reveals that the information is then examined to be transformed into systemic, behavioral, cultural, and social variables. This systematic approach employs systems concepts to demonstrate the functional relationships of environmental, economic, cultural, and social variables that existed at the site. (1, 2)

Rodgers, C. Lanier, Jr. (Four Crossland Archeological Park and Museum), THE AMERICAN LOCALITY, SITE DESCRIPTION, AND LANDOWNER: AN INDISPENSABLE PART OF A SUCCESSFUL RESEARCH PROGRAM. A citizen of the Valley tells how the local community, the landowner, and the conservators are a necessary and integral part of archaeological research on private lands. (24)

Rose, Jerome (Alabama, Birmingham), and Janice Cohen (Massachusetts, Amherst), SKELETAL BIOLOGY, MOUND 72, MOUND 72, A CEREMONIAL BURIAL MOUND AT Cahokia, Illinois. A study of the skeletal remains of a culturally selected segment of the prehistoric population of Cahokia has indicated that the site was occupied by individuals who had high social status, intermediate status, and sacrifices. These groups are found in skeletal and dental pathology, physical characteristics, and genetic traits from the general population. Two studies are in an attempt to elucidate these cultural factors that influence selection for the variables mentioned. (11)

Ross, Richard E. (Oregon State), FIELD ARCHAEOLOGY AND THE GRADE SCHOOL EXPERIMENT. Most archaeologists feel the best way for students to learn the techniques of field archaeology is to actually engage in the excavation process. This philosophy has been accepted pertaining to the training of college students. Recently a local Oregon school
district in consultation with anthropologists from Oregon State University decided to extend this philosophy to teaching children in the lower grades. This paper examines: the original ideas and the problem of implementing the course; the teaching personnel utilized; the makeup of the student population; the kinds of sites used and the problems encountered in the actual process of excavation and the more subtle problems of training the students other than field techniques; recommendations for future programs of the same nature. (7)

Roula, Irving (Yale), CULTURAL DEVELOPMENT ON ANTIQUA, WEST INDIES. Excavations last summer at the site of Indian Creek on Antigua have revealed a sequence of 3 ceramic complexes, Indian Creek, Mill Reef, and Marmor Bay. The first 2 are Saladanoid, and the third, Marmor Bay, is overlain by an Ostionoid, Mollindoid, and an Odulzoid Mollindoid complex. This is a third local development, related to the Elenoid complexes in the other Leeward Islands, the Virgin Islands, and Puerto Rico. The 3 indicate a continuous, uninterrupted evolution of Saladanoid from ca. A.D. 1500, to A.D. 1900, and then a relatively sudden, migration of Ostionoid peoples through the island during the latter part of this period. Excavation was undertaken in January 1974 at the site of Freeman's Bay in an effort to obtain traces of a subsequent Carib occupation of the island. A settlement Freeman's Bay complex was encountered, but it seems to have developed out of the earlier complexes. None of the remains so far found can be attributed to the Carib. (41)

Sabloff, Jeremy A. (Harvard), INTRODUCTORY REMARKS ON THE INTERDISCIPLINARY STUDY OF MESOAMERICAN FINE PASTE WARE: THE PROBLEM, THE RATIONALE BEHIND THE PROGRAM, THE ARCHAEOLOGICAL IMPLICATIONS OF THE DATA. This paper offers a brief overview of the archaeological problem, the rationale for breaking art into archaeological units, and the possible implications of the obtained data from this research. (32)

Salwen, Bot (NYU), and John Veitser (Adelphi), TECHNIQUES FOR DELINEATION OF ACTIVITY AREAS IN A SHELF MIDDEN SITE. Faunal material and artifact classes from Shantok Cove, a multicomponent site on the Thames River, New London County, Connecticut, were studied. The investigation centers on the isolation of discrete activity areas within the woodland component. These areas are recognized as clusters of artifacts and non-molluscan faunal remains within the deposit matrix of shell-processing debris. Such clusters in understanding the dynamics of midden expansion over the period of occupation. (40)

Sawyer, Alan R. (Washington, D.C.), STONE FORGERIES IN CHAVIN STYLE. In recent years a large number of carved soapstone cylinder vessels, bowls, and other artifacts in the Chavinan style have appeared on the art market. Careful examination reveals that many of these are forgeries. Several spurious examples are shown and costs of purchasing with legitimate antiquities. Criteria are suggested for the establishment of authenticity and assigning is given of Moche style forgeries now being manufactured by the same workshop. (30)

Sayre, Edward V., and Carman Harbottle (Brookhaven Natl Lab), METHODS OF DATA HANDLING FOR THE BROOKHAVEN PROGRAM OF NEUTRON ACTIVATION ANALYSIS OF MESOAMERICAN FINE PASTE POTTERY. Both element-by-element and multivariate statistical methods are being evaluated for comparing and grouping specimens of Mesoamerican pottery for which extensive multicomponent x-ray analysis data have been accumulated. The grouping methods include visual comparison of overall data plots and clustering procedures based upon various multidimensional inter-specimen distances. Reference is made to groups and methods which establish groups by means of calculation of Mahalanobis distances relative to the group centers and by consideration of complete sets of factor group eigenvectors also are being evaluated. (32)

Sayre, Edward V. (see Harbottle, Carman) (32) (41)

Schiffer, Michael B. (Arkansas Archaeological Survey), and J. Jeffrey Reid (Arizona), TOWARD AN ARCHAEOLOGICAL TYPOLOGY: I. "PALEOPOTTERY," "ACTION," "LIVING," "EXPERIMENTAL," "EMERGENCY," "PUBLIC," "SETTLEMENT," "SYSTEMS," "PEOPLE," and "ECOLOGICAL ARCHAEOLOGY." Many other seemingly disparate programs are making contributions to modern research. Can all of these programs be placed in a framework broad enough to encompass their diversity while maintaining their integrity? This paper also believes that the socially continuous trends of a behavioral archaeology, which encompasses the diversity of current research. This integration is made possible by the consideration of the flow of general and specific types of information among the 4 interrelated strata: the environmental, the cultural, the social, and the behavioral. The strategy concerned with answering specific questions about the past requires additional efforts at the identification of localized data in a regional framework, based on the distinction between the archaeological and systemic contexts and the formation processes of the archaeological record, to achieve this reintegration. (21)

Schiffer, Michael B. (Arkansas Archaeological Survey), CULTURAL FORMATION PROCESSES: "OCCUPATION FLOORS." Recent attempts at behavioral inference, especially on Paleolithic materials, utilize the concept of "occupation" or "living floor." It is argued here that this concept and the analytic techniques often coupled to it must be replaced by others more sensitive to the complex behavioral determinants of spatial patterns in archaelogical sites. Attention is focused on the source of behavioral variability most frequently overlooked in activity reconstructions, the cultural formation processes of the archaeological record. The quantitative, spatial, and stratigraphic characteristics of the contexts of materials by cultural formation processes must be explicitly modeled in the course of any serious analysis. By modeling these processes, the spatial patterning of artifacts is more comprehensively explained, and the credibility of behavioral reconstructions is enhanced. These arguments and conceptual are illustrated with selected materials from the New World. (25)

Schoop, Antonia V. (Maryland), GEOLoGY AND ARCHAEOLOGY: GEOMORPHOLOGICAL INVESTIGATIONS OF PREHISTORIC SITES, METHODS, TECHNIQUES AND RESULTS OF A PORTION OF THE COASTAL RACK OF THE NORTHERN BAY OF UMBURU. Two of the areas of the Thunderbird archaeological site have dealt with geomorphological processes and methods of research not normally pursued by geologists. Detailed analyses of soil formation and stratification, erosion, flooding, and the depositional and re-depositional processes have been considered. These considerations together are a considerable benefit to the disciplines of archaeology, geology, and pedology. Knowledge of the Pleistocene history of the South Fork has also been gained. (24)

Sessions, Steven C. (see Hanson, John A.) (37)

Sheffer, Charles T. (Temple), COMPUTER SIMULATION AS A TOOL FOR SPATIAL ANALYSIS IN ARCHAEOLOGY: A SIMULATION OF FOOD PROCUREMENT IN SEMI-ARID PLAIN. The theory and techniques of computer simulations in general and spatial simulation in particular are discussed in terms of the development of an interactive computer simulation of food procurement in a semi-arid plain. (10)

Silverman, Helaine I. (Columbia), A PRELIMINARY RECONSTRUCTION OF ASPECTS OF NASCASHCIR CULTURE DURING EPOCH 2 OF THE EARLY INTERMEDIATE PERIOD OF CAHUACHI. It is widely accepted that, during Epoch 3 of the Early Intermediate period, the Nasca Valley was the center of a militaristic, expansionist culture, possibly a state, whose capital was at Cahuachi. A detailed 9-phase ceramic chronology has helped elucidate the development of the spread of the Nasca style throughout the Atacama coast of Peru at this time. But, until now, the question of actual configuration and factors operative in the rise of Nasca culture has been ignored. Recent analysis of the sequence in epoch 2, with known provenience, provides a further refinement of the chronology for Epoch 2 of the Early Intermediate period and provides new information about possible events leading to the short-lived florescence of Cahuachi. These 2 epochs 2 is proposed and a concomitant increase in religious concern is demonstrated. (16)

Smeth, Florence P. (SUNY, Albany), ARCHAEOLOGICAL FRONTIERS: A HIGHLAND MAYA EXAMPLE. Frontiers are seen as areas of change. The nature of change along frontiers is considered as the result of ethnic interactions. A possible model for dealing with such change is discussed, and applied to the Quiche-Pokomol frontier of highland Guatemala. (41)

Smith, Bruce D. (Loyola), MIDDLE MISSISSIPPIAN EXPLOITATION OF ANIMAL POPULATIONS: A PREDICTIVE MODEL. A model consisting of a sequence of 4 interconnected workshops within which exploitation of animal populations by Middle Mississippian groups can be considered. Faunal data recovered from a series of Middle Mississippian sites is presented to facilitate the development of the model. Exploitation has been shown to be selective, and it is seasonally oriented, and concentrated on those sections of the biotic community that would provide a maximum meat yield with a minimum of effort. (36)

Smith, C. Earle (Alabama), DIRECT EVIDENCE FOR WOODLAND DIET AND ENVIRONMENT. With the development of techniques for recovery of carbonized plant remains has come increasing evidence for the environment occupied by Woodland People and the diet that they consumed. Earlier conjectures that agriculture played only a small role in the diet appear to be confirmed. New techniques for forming foods in cultivation of foods among the plant remains. These remains confirm that the eastern North American mixed hardwood forest dominated large areas of the southeast and also dominated the nutritional intake of the Woodland. (36)

Smith, Robert H. (Wooster), TOWARD A CODE OF ARCHAEOLOGICAL ETHICS. In archaelogy, we are faced with the irrepressible remains of man's past, there need for careful attention to matters of ethics, and more specifically to the question of a written code of conduct for persons and institutions engaged in the practice of archaeology. In this presentation some preliminary thoughts about the development of a "Code of Ethics for Field Archaeology" are discussed, including ethical canons relevant to the field archaeologist, the sponsor of an excavation, the chief excavator and the excavation staff. (7)

Sznarski, Michael J. (Columbia), A NEW CERAMIC SEQUENCE FROM THE LOWLANDS OF COSTA RICA: The first systematic stratigraphic excavations in the eastern lowlands of Costa Rica have revealed a definite cultural stratigraphy extending back at least 1500 years
before the Spanish Conquest. The earliest ceramic complex yet encountered has stylistic affinities with the Zoned Richee complex (108 B.C.-A.D. 108) of northwest Costa Rica. In addition, a number of the famous blue-green jades from eastern Costa Rica were found for the first time in a controlled stratigraphic context. (41) Sned, Paul G. (British Columbia), ARCHAEOLOGICAL SYSTEMATICS AND BASKET-MAKER CULTURAL ECOLOGY: SOME CEDAR MESA PROJECT EXPERIENCES. This report describes some methods and results obtained in an ongoing study of Basket-Maker settlement systems. It includes short summaries of current research and environmental conditions at the Cedar Mesa region of southeastern Utah. It is based on a discussion of methods of classifying sites, and a major consideration is the use of computer-assisted, small-scale mapping of intrasite and intersite artifact and ecological distributions. Finally, an attempt is made to model cultural ecological systems and adaptive change (if any) on Cedar Mesa during the BM II and BM III periods. (42) Spencer, Michael E. (Western Ontario), and Phil C. Welland (SUNY, Stony Brook), OBSIDIAN TRADE IN THE WESTERN MEXICO SURVEYS AND EXCAVATIONS OF THE LAST DECADE. In the past decade in West Mexico, particularly in the Tepotzlan-Ahuacalco-Ezatlan valleys of Jalisco, have been identified some of the main obsidian using communities and field areas. The study of the obsidian distribution patterns is currently providing evidence for patterns of social interaction and cultural chronology for the Archaic of this area. Finally, Spencer is seen as a proving ground for new approaches to the study of human societies and the development of an understanding of the prehistoric past. (38) Snelten, Audrey (Florida St.), PHYSICAL ANTHROPOLOGY AND ARCHAEOLOGY OF A MULTICOMPONENT SITE IN NEW YORK STATE. (33) Swedlund, Alan (see Arnelos, G.) (33) Swibel, Sheri (see Stocker, Terrance) (41) Tainter, Joseph A. (New Hampshire), THE SOCIAL DIMENSIONS OF MORTUARY PRACTICES. This paper presents a discussion of the methods of analysis of ethnographically recorded mortuary systems. The results indicate that the mortuary custom practiced at Guataco, Chile, which has been radiocarbon dated at the beginning of the Christian era, and the burials in the ancient Hopi culture area, are the most striking examples of an ancient mortuary custom practiced at Guataco, Chile, which has been radiocarbon dated at the beginning of the Christian era. Subsequent examination of this burial complex revealed a distinct difference between the two burial groups. The anatomical differences between the two groups are suggested to suggest a ceremonial-religious activity, in contrast to trophy headhunting, which is associated with this specialized burial custom. (30) Taylor, Richard L., James I. Ebert, and Robert K. Hitchcock (New Mexico), THEORETICAL LINKING ARGUMENTS AND THEIR ROLE IN THE CONSTRUCTION OF PREHISTORIC MORTUARY PRACTICES. These arguments are used to argue that the archaeological record is a reflection of the social, cultural, and economic processes that shaped human societies. (25) Tailor, Richard L. (see Viera, Robert K.) (25) Thacker, John P. (Wright S), A VIEW OF THE NORTH HIGHLANDS AS SEEN FROM HUAMACHUCO. The topographic and cultural characteristics of the northern part of the Chavina culture area, which extends from the Cajamarca Basin to the north and the Callao de Huaylas to the south, makes it a potentially important area for the study of Inca culture. Recent archaeological research indicates that the region may have been inhabited during the Inca period, and that the site of Huamachuco is the most important settlement in the region. (15) Thomas, Prentiss M., Jr. (Tennessee), CLASSIC MAYA TERRACING AND ARTIFICIAL RIDGES AT BECAN, CAMPECHE. An elaborate system of artificial ridges located in the northwestern part of the Yucatan Peninsula near the city of Becon. Significant features provided by the study are described. (6) Thomas, Ronald A. (Section of Archaeology, State of Delaware), EFFECTS OF TRADE ON ABORIGINAL CULTURAL MANIFESTATIONS OF THE DELMARVA PENINSULA. The site of the Eastern Shore of Delaware, which was an extensive trading system, and the use of the materials are discussed. (79) The recovery of exotic artifacts throughout the Delmarva Peninsula has made it obvious that the network reached the eastern United States during the last 3000 years well documented archaeologically. (6)
Is the advent of a highly developed socioreligious complex. This complex is recognized by паттерн and differential treatment of corpses during mortuary rites and by the utilization of the exotic artifacts acquired through the trade network as emblems of office and as means of denoting particular status levels. It is contended that this socioreligious complex could not, and did not, exist in indigenous cultures of the Deltaic Peninsula prior to the appearance of the network. Although a cause and effect relationship between trade possibilities and developed status systems is not suggested, it should be pointed out that little change occurred during the initial period being considered in any but the 2 aforementioned systems during this subsystem-settlement system. The presence of a data system was stable during the first 2000 years of the existence of the trade and communications network. (19)

Thompson, Jeannette Jackson (Missouri). ACTIVATION ANALYSIS AT THE U.M.C. LABORATORY. ACHAEOMETALLURGY: THE METALS APPLIED TO ARCHAEOLOGY. Neutron activation has proved to be a powerful tool in determining the provenience of artifacts. Work is in progress at this laboratory on the analysis of ceramics from North America and metal objects from Europe and Africa. Results from these analyses include: preparation of a chemical standard for short-lived radioisotopes, reduction of sample contamination, uniformity of sample preparation, irradiation and counting procedures, and development of isotopic determinations, and interpretation of data. Results allow the determination of prehistoric raw materials through time and space. (39)

Tobler, Waldo (Michigan). MODELS OF SPATIAL AUTOCORRELATION: THEIR DEVELOPMENT AND APPLICATION. This paper focuses on the historical development of models of spatial autocorrelation and their present utility as tools for archaeology. Problems inherent in the development of computer programs for calculating spatial autocorrelation are also discussed. (18)

Topic, Theresa L. (Harvard). CONTINUITY AND GROWTH AT MOCHE. A series of deep strata cuts at the site of Moche in the Moche Valley have shown that the site was occupied continuously from Late Gallinazo through Moche IV. Although the stratigraphy is complicated by depositional problems, the growth of the site can be traced in terms of area covered in occupation, and increasing archaelogical evidence in the site. The evidence in these spheres correlates with increasing power and influence of the site relative to other settlements in the Moche Valley and in adjoining valleys. The evidence indicates that the growth of the site was a gradual, cumulative process. Stratigraphic analysis during the time period that the antecedents to Late Intermediate period urbanism appear, the nature of which Indipendent culture change must be examined. For a variety of reasons it is especially difficult to isolate the factors responsible for this kind of change, but the long occupation and deep stratigraphy at Moche make it possible to recognize the process, if not to explain it satisfactorily. (31)

Trubowitz, Neal (SUNY, Buffalo). RESEARCH ORIENTATIONS IN SALVAGE ARCHAEOLOGY. The nature of archaeological research is changing under the pressure to deal with the current destruction of the archaeological record must operate with research orientations. Otherwise, archaeologists will find that their research projects are intrinsically biased and lack of sufficient data. An example of a highway program that incorporates research goals and methodology is discussed. (31)

Ubelaker, Douglas H. (Smithsonian). ANTHROPOLOGICAL INTERPRETATIONS FROM DEMOGRAPHIC RECONSTRUCTION: A CASE STUDY FROM THE TIDEWATER POTOMAC. Demographic data reconstructed from skeletal samples can be used to examine problems of demography and biocultural history. In this study, the methods and techniques were reconstructed from protohistoric ossuary samples in the mid-Atlantic area of the United States. The resulting mortality curves, survivorship curves, life tables, and crude mortality rates were then used together with archaeological information to estimate the number of years represented by the ossuary, the size of the formerly living population, and the nature of the population contributing to the ossuary. The results of these estimates were then compared with others derived from different types of data. (33)

Vanderklaft, Barbara (Wisconsin, Milwaukee). AN ANALYSIS OF MOUND 12 POTTERY. Mound 12 of the Cahokia site in East St. Louis, Illinois has attracted attention for its elaborate burials and cache pits. This paper presents the results of an analysis of the ceramic remains excavated at the site. The pottery, called the Cahokia Standard Ceramic Code, was examined statistically both as a single component and for internal variation. A comparison of ceramics found in the Mound 12 midden areas with those found associated with the Cahokia standard ceramic code lends itself to the exploration of the interaction. Trade connections, possibly with the Cahokia area, are also in evidence. (11)

Vesvre, Douglas W. (Connecticut). THE USE OF HISTORIC AND ETHNOGRAPHIC DATA IN ARCHAEOLOGICAL INQUIRY. The use of historic and ethnographic materials in the archaeological investigation of sites of historic period has a significant potential for both archaeological method and theory. Such materials have too long been employed simply to provide more detail to reconstructions of culture history. Instead, it is suggested that historic and ethnographic data can be instrumental adjuncts to a processual archaeological investigation, both by providing expanded data base upon which hypotheses may be formulated and also by providing data against which archaeological hypotheses, tested archaeologically, can further be examined, thereby providing the discipline with the means for critically testing some of its notions concerning the nature of archaeological proof. (21)

Vetter, John (see Salwerp, Bert). (40)

Vieria, Robert K., and Richard L. Taylor (New Mexico). A SPATIAL ANALYSIS METHOD FOR ISOLATING AND RECONSTRUCTING SPATIAL DISTRIBUTIONS. The purpose of this analysis is to present a spatial analysis method for reconstructing overlapping activity areas in the archaeological record. A factor analysis model is employed in which the cases represent subdivisions spatial units of an occupational level and the factors are specific activity areas which are found within each spatial unit. A computer program evaluates the results and then reveals the spatial dimensions of each activity area. A strategy for choosing a beginning reference point, as well as for determining the size of the spatial unit, is suggested. (25)

von Endt, D. W. (Smithsonian), P. E. Hare (Carnegie Inst of Washington), and D. J. Othmer (Smithsonian). ENVIRONMENTAL FACTORS AND THE PREHISTORIC CAUCASIAN PIG. Our report will focus on the relationship between environmental conditions and bone decay. First we shall review some factors that affect the rate of bone decomposition such as temperature, water movement, and soil pH. We will discuss the effects of our research on bone size as it affects bone degradation. In simulation studies we found that protein is most quickly from small particles than from large particles of comparable size. This finding is important in understanding the results of attempts to date archaeological bone specimens and is a significant factor to consider in the interpretation of faunal remains at archaeological sites. (23)

Wagner, Catherine A. (Illinois, Urbana). THE NAZA CREATURES: SOME PROBLEMS OF ICNOMOLOGY. This paper focuses on the evolution in form and meaning of the Masked Mythical Being motif in Nazca iconography. In order to interpret this evolution several other motifs are also considered, including the Killer Whale, Warrior and Cosmic Deity, which lead to a re-examination of Roark's distinction between mythical and military themes. The basis of this discussion the paper explores the extent to which an artistic tradition can be treated as a reflection of the culture within which it was produced, with an emphasis on art as an independent tradition within a culture rather than as reflection of a cultural whole. (15)

Wagner, Erika (Instituto Venezolano de Investigaciones Científicas). NEW ARCHAE- OLOGICAL DATA FROM THE LAKE MARACAIBO BASIN. Excavations along the eastern shore of Lake Maracaibo have revealed cultural and ecological features that have enabled us to establish a new cultural pattern for the Lake Maracaibo Basin. The North American, a study of the cultural and ecological features of the area. The main characteristics of this pattern are presented and relationships with other cultural patterns in northern South America are established. (38)

Walker, Joan M. (Catholic). MOUNDS, MOUNDS, MOUNDS. Burial mounds in the Shenandoah Valley are poorly reported but widely distributed. The results of research into the Smithsonian Institute Archives, land records, amateur collections, and mound location are reported with a summary of their chronological placement and content. (24)

Walker, John W. (Southeast Archeological Center, Nati Park Service). DISTRIBUTION AND SIGNIFICANCE OF WEEDEN ISLAND SITES IN GEORGIA AND ALABAMA. As the result of the discovery of a large Weeden Island site on the Atlantic drainage in central Alabama, a study of the site and surrounding area was undertaken. This study indicates that significant quantities of Weeden Island ceramics occur on sites located within an area of the coastal plain extending from the southern half of the Georgia coast northward to the fall line and westward to the Alabama-Mississippi border. (14)

Walter, Nancy Peterson (ESA). GETTING A MUMMY X-RAYED. An analysis of x-ray and neutron radiography of a Peruvian child mummy bundle belonging to the Los Angeles Natural History Museum, looking for pathological problems, artifacts, and examination of histological material. (26)

Wathall, John A. (Alabama), HOPEWELLIAN TRADE AND INTERACTION IN THE MID-SOUTH. The Hopewellian culture of the Southeast and Mid-South is differentiated from earlier regional expressions by the emergence of a new cultural pattern. This development was, in part, stimulated by the participation of certain ethnic groups in local and distant trade networks. Interaction in the Southeast and Midwest. This contemporary community in the Mid-South that participated in this network is defined and the extent of geographical interaction is determined. The effects of this phenomenon on their cultural interaction are discussed concerning the role of the Indian as a commercial agent. The exchange of goods among these groups is considered, as well as the role played by highland raw materials and commodities in the initiation of this cultural interaction. (5)

Watson, Patty Jo (Washington, St. Louis). THEORY IN ARCHAEOLOGY: THE NEW CRITICISM. During the past 2 years, several articles and reviews have appeared expressing
criticism of what is still referred to as “new archaeology.” Some of the critiques are highly relevant to the practice of archaeological theory, while others obviously reflect merely a backslas or reverse-bandwagon effect. Therefore, in the interest of clarifying the major issue, it is worthwhile to review these critiques and to extract what is substantive from what is merely superficial polemical rhetoric. In this paper, such a review is offered, together with a discussion of the main points at issue. (21)

Weid, Carol S. (Prescott C.), . . . FOR THE SUPPLY AND PROFIT OF OUR HOPE . . . “A MODEL FOR DISTRIBUTION OF COGASPE-COLLARED-EGRET OHIO LAND AND NATURAL CULTURAL CHANGE IN THE UPPER CHESAPEAKE BAY AREA. The relationship of environmental and cultural changes in the upper Chesapeake Bay area. Artificial and environmental data are used to explicate the processes of adaptation and stress reaction of coastal-oriented economies to ongoing processes of change. A theoretical and conceptual model is presented which is a preliminary one for understanding the complicated interdependencies among ecological, economic, and social variables. (27)

Weigand, Phil C. (SU NY, Stony Brook), and Joseph Mountjoy (North Carolina, Greensboro), THE TEUCHITLAN AND PROVIDENCIA SITE IN JALISCO, MEXICO. Surveys in the Tehuacán-Cholula-Teotihuacan region have led to the definition of several highly complex sites, predominantly of the Chalcatzingo type. Two sites in particular stand out because they display many urban characteristics: large occupation zones, open space, and complex irrigation ditches and terraces, specialized workshop zones, etc. The considerable size and extent of these urban sites will be discussed. (41)

Weigand, Phil C. (see Harbottle, Garmon) (41)

Weiss, Kenneth M. (Texas, Houston), THE USE OF LIFE TABLES FOR DEMOGRAPHIC ANALYSIS. In this study, population remains are simulated first by deterministic population projections using a known model life table. The effect of various growth rates and of various deviations from stability, are tested for their effect on the projected demographic inferences. The parameter of population series of sporadic demographic disturbances are tested for their effect on the simulated remains. It is found that even for severe disturbances, only a modestly short recovery period of continued distortion period before the life table can again be inferred with close accuracy. The different effects of mortality and fertility ‘events’ are examined, as well as the effect of age-dependent populations. In general, it can be concluded that under some mild restrictions, it is possible for populations to be safely estimated by the method of life tables. The importance of this investigation is highlighted by this investigation as well as (33)

Wenke, Robert (Michigan), APPLICATION OF LOCATIONAL MODELS TO THE EVOLUTION OF IMPERIAL SYSTEMS IN SOUTHWESTERN IRAN. The question of why geographically and temporally distinct cultural systems should go through apparently similar patterns of socioeconomic expansion has long been of interest to researchers. This paper attempts to test empirically some of these theories and to provide an understanding of the underlying processes by which cultural systems spread. (41)

Whitson, Robert, Jr. (Michigan), TOOL KITS OR ACTIVITY AREAS? The most common approach to the analysis of patterns of artifact distribution on an occupation floor has been to define clusters for each individual group in turn, to define “tool kits” from patterns of mutual spatial covariation among artifact types, and finally to use the spatial clustering of these tool kits as the basis for cultural interpretation. In this paper, we attempt to explore the possibilities of a “tool kit” is not particularly realistic and that the above approach might be reversed, searching first for “activity areas” and only then attempting to define “tool kits.” (25)

White, Marian (SU NY, Buffalo), GOALS OF THE HIGHWAY SALVAGE SURVEY. The NORTHEAST, AN EXAMPLE. This paper will discuss the priorities that should exist on a highway salvage survey in contrast to other kinds of survey work. Problems of Corridor and Right-of-Way recommended as well as different goals that exist at each of these stages of overall research. (31)

Wildesde, Leslie E., and Carol A. Mortland (UCR), THE FALLACY OF "THE DESERT" AS A PREHISTORIC CULTURE AREA. A synthesis of previous and recent cultural and environmental data from the Mojave Desert suggests that models developed for one portion of the desert do not adequately predict data from any other portion of the desert. The intra-regional variations are a function of local variations in climate, land use patterns, and unique cultural history, and are of sufficient magnitude to make general discussions of "desert" cultures inapplicable to the Mojave Desert geographic region. (35)

Williamson, Steve, and Don Robinson (Washington), ENVIRONMENTAL AND CULTURAL CHANGE IN THE UPPER CHESAPEAKE BAY AREA. The relationship of environmental and cultural changes in the upper Chesapeake Bay area. Artificial and environmental data are used to explicate the processes of adaptation and stress reaction of coastal-oriented economies to ongoing processes of change. A theoretical and conceptual model is presented which is a theoretical one for understanding the complicated interdependencies among ecological, economic, and social variables. (27)

Winter, Joseph C. (Utah), THE SPREAD OF AGRICULTURE IN THE SOUTHWEST AND GRABER. The spread of agriculture in the Southwest has emphasized the diffusion of new crops and morphological changes in the local maize series as the major factors in the adoption of a farming economy. While the present study accepts the importance of seeds and varietal characteristics, it concentrates upon modifications in the regional systems of exploitation in explaining agricultural adoption, and in particular examines the local wild plant complexes and their environmental and cultural associations. Data from Utah are presented which correlate the local adoption of farming with the development of grass collecting complexes, perhaps in a context of broader trends toward increased domestication of maize. (56)

Witter, Dan C. (New Mexico), NAMUZT INTRUSIVE ENVIRONMENTAL AND CATEGORIES OF FAUNAL ANALYSIS. Faunal remains offer a means of understanding subsistence strategy and related cultural processes. The analysis of animal bones requires categorization of the different types of information provided by the bones in terms of human behavioral and cultural patterning. With the caribou-hunting Nammakt Eskimo as a source for example and documentation, the meaning of analytical categories such as (1) species diversity, minimum numbers of individuals, (2) distributions of anatomical assemblages, (3) bone breakage and fragmentation, (4) horizontal distribution and bone features, (5) identity marks, and (6) life history and processing. (41)

Wobst, H. Martin (Massachusetts, Amherst), CENTRAL TENDENCIES IN EQUATION ESTIMATION IN THE IMPACTS OF COMPUTER SIMULATION. The locational patterns and demographic structures of band society are compared to those of tribal agriculturalists by the use of the program of long-distance models. Cultural change is modelled by the stochastic variables that underlie the demographic structure of equatorial band society. These tendencies have to be counteracted by social and economic processes in order to reduce any of using centralization. This finding is important when we consider the impact of this variant on prehistoric cultural change and stability are discussed, and the potential of the advocated change in emphasis is illustrated with some examples. (41)

Wykoff, George H. (U.S. Forest Service, Ogden, Utah), ARCHAEOLOGICAL IMPACT OF PIONY JUNIPER CHAINING: A TEST OF A RECOMMENDATION FOR A BASIS FOR NETWORKING THESE AND OTHER SIMILAR PROJECTS. The study of the non-random natural forces produces information about the distribution of materials by the same method of improving grassland grazing pattern through the western United States. County level data are collected from the southern Great Basin experiment, on a surface lithic site in eastern Utah indicates that the systematic force of buffalo grazing and trampling activities can have serious effects on surface and subsurface archaeological remains. These impacts can be quantified by using computer models which suggest the potential of these impacts are considered. (41)

Yarnell, Richard (see Chapman, Jefferson) (36)

Yeaton, John E. (Smithsonian), CULTURAL AND NATURAL PROCESSES IN FAUNAL ASSEMBLAGE FORMATION: A KOUNG BUSHMAN EXAMPLE. Butchering, like all cultural processes, is governed by implicit and explicit rules. These rules are in part to our cultural or personal framework, part of the body of knowledge, and to the kinds of butchering tools employed; for such reasons marked cross-cultural similarities may be noted. But other aspects of this process may be better conceived as ‘cultural artifacts’ in ritual, and can be seen in the case of a particular cultural practice such as cultural pattems. Cultural patterns may be widely confused with cultural ones. Bone refuse, collected from the Bushmen in carefully controlled situations provides a basis for studying cultural patterns, but the following are used to examine the non-random natural forces that are also at work. (20)

Yesner, David, and Alan Bieber, Jr. (Connecticut), APPLICATION OF MULTIVARIATE ANALYSIS TO REGIONS OF FAUNAL ASSEMBLAGES. A frequently encountered
problem in archaeological research is the analysis of inter-and intrasite variability in faunal assemblages from an ecologically defined region. Little effort has been devoted to the exploration and comparison of various multivariate techniques for such analysis. These techniques may provide, among other things, a key to the deployment of human populations within a region over time by comparison with a matrix of possibilities derived from both ecodynamic and ethnographic data. The southwest Ummak region of the Aleutian Islands provides an excellent body of test data for such multivariate techniques as various kinds of distance measures, cluster analysis, and G-mode, and R-mode factor analysis. Results of these analyses are compared and contrasted, and suggestions are made concerning possible wider applications of the techniques. (42)

Zucchi, Alberta (Instituto Venezolano de Investigaciones Científicas), ARCHAEOLOGICAL RESEARCH IN THE NORTHEASTERN VENEZUELAN LLANOS, A new large settlement site was discovered and excavated in the northwestern Venezuelan Llanos (State of Portuguesa). The paper presents the preliminary results of this research which seem to indicate that the site functioned as a confluence center for Western Venezuela, and also as a significant trade center with Central America. (30)

1) What about the factor score?
2) Simultaneity (for $t$ tests?)

3) Use of: hypothesis (hypothesis) testing among settlements

intertests: predictions

+ how to test in field

Attractions to

initial axial units
tendency for agglomeration
proximity to resources
locations are accessible
some more than others

CP: locus of activity, agglomeration, production, distribution

CP function: different from those in lower-order centers

CP hierarchy: discontinuous distributions

structural $A$'s develop

as result of ordinations 1, 2, or 3 above

Why CP's? Centralization sensitive to factors that cause social ranking, stratification.

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