

50TH ANNUAL  
NORTHWEST ANTHROPOLOGICAL CONFERENCE  
PROGRAM

CENTRAL WASHINGTON UNIVERSITY

and the

DEPARTMENT OF ANTHROPOLOGY

April 17-18-19, 1997

*COURSON CONFERENCE CENTER*

Anthropology Chair, Steven Hackenberger (hackenbe@cwu.edu)



Central Washington University



**50TH ANNUAL NORTHWEST ANTHROPOLOGICAL CONFERENCE  
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*REGISTRATION-APRIL 16, 5:00-10:00 P.M.  
COURSON CONFERENCE CENTER.*

Anthropology Chair, Steven Hackenberger (hackenbe@cwu.edu)

Thursday Morning, April 17, 1997

8:00-9:00 Breakfast and Preregistration meeting check-in, Tunstall Dining Hall

8:00 a.m.— 4:00 p.m. Open Registration Student Union Bldg. (SUB) 2nd Floor Lobby

9:00 a.m.	<b>KEYNOTE: Roger Fouts (CWU)</b> Chimpanzee Conversation Room: Cesar Chavez Room (SUB Theatre)
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9:45 Coffee

[1] **SYMPOSIUM: MANY FACES OF PRIMATE RESEARCH**

Room: Cesar Chavez Room (SUB Theatre)

**CHAIR: AGUSTIN FUENTES (CWU)**

10:00 **Fuentes, Agustin (CWU)** Introduction.

10:05 **Ray, Elsworth (UCB)**—Hierarchy and Sociality in *Presbytis entellus*  
Langur Monkeys.

10:25 **Jensvold, Mary Lee (CWU)**—Cross-fostered Chimpanzees Responses to  
Varying Types of Questions.

10:45 **Kyes, Randall (UW)**—Research and Training at the Tinjil Island Natural  
Habitat Breeding Facility.

11:05 **Jensvold, Mary Lee and Cricket Sanz (CWU)**—Chimpanzee's Reaction to  
Naive vs. Educated Visitors.

11:25 **MacKinnon, Katherine (UCB)**—Controlling Processes at Work: Paradigm  
Shifts in the Field of Primatology.

## THURSDAY

11:45

Discussion: **R. Fouts** (CWU) and **A. Fuentes** (CWU)

[2]

### **SYMPOSIUM: THE EVOLUTION OF A LANDSCAPE: THE UPPER YAKIMA RIVER BASIN**

Room: SUB Ballroom

Chair: **Robert Kuhlken** (CWU)

10:00

**Uebelacker, Morris and D. Eitemiller** (CWU)—Native American Resource Patterns, Upper Yakima River Basin, 1860-1996.

10:20

**Kuhlken, Robert** (CWU)—Adaptation and Change in an Upper Yakima Basin Agricultural Landscape.

10:40

**Root, Ann** (CWU)—Evaluation of Water Reallocation Programs in the Yakima Basin.

11:00

**Lillquist, Karl and K. Peterson** (CWU)—Recent Mass Wasting in the Upper Yakima River Basin

11:20

Panel

[3]

### **SYMPOSIUM: CURRENT ANTHROPOLOGICAL RESEARCH AMONG GRADUATE STUDENTS AT WASHINGTON STATE UNIVERSITY PART I**

Room: SUB 206-207

Chair: **Douglas H. MacDonald** (WSU)

10:00

**MacDonald, Douglas H.** (WSU)—Hunter-Gatherer Mating Distances and Early Paleoindian Social Mobility in Western North America.

10:20

**Shannon, Donald** (WSU)—Breastfeeding Among the Aka: An Evolutionary Perspective.

10:40

**Moulds, Janice Leigh (Dillard)** (WSU)—The Complete Chimpanzee: a Mirror into Prehistory.

11:00

**Wright, R.E.** (WSU)—Strategies for Resource Preservation on the Southern Columbia Plateau: Utilitarian Praxis and Conservation Ideology.

11:20

**Morrison, John G.** (WSU)—A Study of Early Cascade Raw Material Utilization at the Castle Rock Site (45WT108).

11:40

**Wegener, Robert M., Peter J. Mehringer, Jr. and Carl E. Gustafson** (WSU)—Prehistoric Bison and Ceramics: Additions to the Archaeology and Chronology of Skull Creek Dunes, Catlow Valley, SE Oregon.

## THURSDAY

12:00

**Andrefsky, William Jr.** (WSU) Symposium Discussant.

[4]

### **VOLUNTEERED PAPERS IN HISPANIC CULTURES**

Room: Yakama Room

Chair: **William Speth** (Independent Scholar)

10:00

**Strange, Frederick** (EWU)—Mestizaje in the Mexican Countryside.

10:20

**Raymond, Jeffrey D.** (EWU)—The Role of Ethnicity Among the Contemporary Maya of Guatemala.

10:40

**Urbanec, Alina J.** (Pacific Lutheran U.)—Maintaining Elite Social Status in an Era of Political Evolution and Volatility: A Nicaraguan Case.

11:00

**Leal, Ruth** (Big Bend C.C.)—El Norte.

11:20

**Flanagan, James Anthony** (U.M.)—Ecotourism, Sustainable Development and Developing Nations.

11:40

Discussion

[5]

### **SYMPOSIUM: REVISITING PALOUSE CANYON PART I**

Room: SUB 204-205

Chair: **Astrida R. Blukis Onat** (BOAS, Inc.)

~~10:00~~

**Leier, John and Ray Tracy** (USACE-Walla Walla)—The Role of the Corps of Engineers in the Palouse Canyon Archaeological District.

~~10:20~~

**Onat, Astrida** (BOAS)—The Palouse Canyon Archaeological Project, BOAS, Inc.

10:40

**Daugherty, Richard D.** (WSU)—The Public, the Press, Archaeology and Legislation.

11:00

**Fredin, Adeline** (Colville Confederated Tribes)—Perspectives from the Colville Tribes.

11:20

**Hicks, Brent A.** (BOAS, Inc & Colville Confederated Tribes)—Palouse Canyon Archaeological Project Highlights.

11:40

**Morgenstein, Maurice E.** (GMI, Inc.)—Anthrosol Development in Rockshelters and Open Sites in the Palouse Archaeological District, Eastern Washington.

## THURSDAY

12:00 - 1:00

**LUNCH Tunstall Dining Hall** (for Conference guests, Option I and II.) (Talk Groups Get Your Lunch and Go to the Reserved Tables: Chairs, Contractors, Exec. Officers of Regional Associations)

1:00

**KEYNOTE: Reid A. Bryson** (UWiscconsin-Madison) — Human Scale Climatology for Archaeologists. Room: Cesar Chavez Room (SUB Theatre)

[6]

### **SYMPOSIUM: PALEOECOLOGY AND ITS APPLICATIONS**

Room: Cesar Chavez Room (SUB Theatre)

Chair: **James C. Chatters** (Applied Paleoscience)

2:00

**Ely, Lisa L.** and others. (CWU)—Geomorphic Records of Holocene Climatic Variability.

2:20

**Beck, Abigail P.** and **Peter J. Mehringer, Jr.** (WSU)—7,000 Years of Climate, Vegetation, and Fire: Blue Mountains, Oregon.

2:40

**Lepofsky, Dana, Douglas Hallet** (SFU) and **Kevin Washbrook** (Sto:lo Nation)—Traditional Resource Management: The History of Controlled Burning Practices among the Sto:lo of the Fraser Valley, British Columbia.

3:00

**Chatters, James C.** (Applied Paleoscience)—Taking the Long View: Evidence of Salmon Population Dynamics During the Holocene.

3:30

Coffee

3:50

**Butler, Virginia L.** and **Nancy J. Bowers** (PSU)—Problems and Prospects for Ancient Salmon DNA Research.

4:10

**Bonnichsen, Rob** (OSU) An Update on the OSU Molecular Archaeology Program: Analyzing and Extracting DNA from Ancient Hair. \*Tentative

4:30

Discussion: **P. Mehringer** (WSU) and **R. A. Bryson** (UW-Madison).

[7]

### **SYMPOSIUM: WSU GRADUATE RESEARCH PART II**

Room: SUB Ballroom

Chair: **Douglas H. MacDonald** (WSU)

2:00

**Najera, Jennifer M.** (WSU)—Home on the Basin and Range: Archaeological Testing of a Late Holocene Dune Occupation, Malheur National Wildlife Refuge, SE Ore.

2:20

**Lyons, William** (WSU)—White Knives and Black Razors: Lithic Procurement and Use at Lost Dune, a Late Prehistoric Shoshonean Bison Processing Site in SE Ore.

## THURSDAY

- 2:40 **Kramer, Kathryn** (WSU)—Warfare in the Northern Southwest: The Skeletal Evidence.
- 3:00 **Smith, Rachel L.** (WSU)—Southern Exposure: Kiva Variation and Anasazi Migration.
- 3:20 **Coffee**
- 3:40 **DePew, Alan D.** (WSU)—Archaeology of the Wood River System, SW Alaska.
- 4:00 **Wilmerding, Elizabeth G.** (WSU)—Preliminary Results of a House Excavation on Chernabura Island, Alaska.
- 4:20 **Georgina, Dianna M.** (WSU)—Preliminary Analysis of a Sample of the Faunal Remains from Lime Hills Cave One (LIM 002) Alaska.
- 4:40 **Andrefsky, William, Jr.** (WSU) Symposium Discussant
- [8] **SYMPOSIUM: VOLUNTEERED PAPERS IN CULTURAL RESOURCE MANAGEMENT**  
Room: Yakama Room  
Chair: **Michael Burney** (Confederated Tribes of Umatilla Indian Reservation).
- 2:00 **Minthorn, Phillip E.** (National Museum of Natural History)—The Warm Springs/Yakama Repatriation: A Case Example in Claimant Decision-Making.
- 2:20 **Longenecker, Julie, Thomas Bailor, and Jeff Van Pelt** (CTUIR)— Golf, Mammoths, and Cultural Resources Monitoring.
- 2:40 **Bailor, Thomas, Michael S. Burney and Jeff Van Pelt** (CTUIR)—The Discovery of the Kennewick Ancient One Raises More Questions about Archaeology and the Future of Cultural Resources Management that He Can Help Answer.
- 3:00 **Burney, Michael S., Jeff Van Pelt and Thomas E. Bailor** (CTUIR)—Hanford Nuclear Facility and the Umatilla, Cayuse, and Wallawalla Tribes: A Decade of Dialogue.
- 3:20 **Coffee**
- 3:40 **Kremer, R.** (Holocaust Center, BC)—First Nation Students as Catalysts For Change in the Repatriation Issue: The Experience of the Aboriginal Cultural Stewardship Program, British Columbia.

## THURSDAY

4:00 **Hickerson, Leslie** (USDA:Forest Service)—Passport in Time Delivers Positive Results.

4:20 **Bernick, Kathryn** (UBC)—Public Exposure: Promoting Archaeology in the '90's.

### [9] SYMPOSIUM: CULTURE, HEALTH AND HEALING

Room: SUB 208

Chair: **Tracy J. Andrews** (CWU)

2:00 **Gabany-Guerrero, Tricia** (CWU) The Heart of the Oak: Tarascan Symbolism and Medical Practice during the Early Colonial Period.

2:20 **Andrews, Tracy J.** (CWU), **Vickie Ybarra**, (YVFWC) and **Teresa Miramontes** (CWU)—Health and Healing for Undocumented Immigrant Women in the Yakima Valley: a Project in Progress.

2:40 **Roat, Cynthia** (Cross-Cultural Health Program, PMC)—Medical Interpreting: the Emergence of a Profession.

3:00 **Demowez, Tsehay** and **Bria Chakofsky-Lewy** (Harborview Medical Center)—Beyond Interpretation: The Role of Interpreter Cultural Mediators.

3:20 **Coffee**

3:40 **Bestor, William** (Linfield College)—Medical Anthropology in a Portuguese Village.

4:00 **Flanagan, James Anthony** (UM)—The Political Economy of Health in Developing Nations.

4:20 **Wahlfeld, Christopher C.** (UM)—Biomedical Encounters and Medical Syncretism.

### [10] SYMPOSIUM: REVISITING PALOUSE CANYON PART II

Room: SUB 204-205

Chair: **Astrida Onat** (BOAS Inc.)

2:00 **Mastrogiuseppe, Joy** (WSU)—The Twist of a Fiber: Archaeological Textiles along the Lower Snake River.

2:20 **Newman, Margaret** (U. Calgary) The Use of Molecular Biological Techniques at the Palouse Canyon Archaeological Project.

2:40 **Gustafson, Carl** (WSU)—Marmes Rockshelter: 10,000 Years of Faunal Stability.



## THURSDAY

- 3:00            **Sprague, Roderick (UI)**—Palus: The Village, The Band and the People.
- 3:20            **Wegars, Priscilla S. (UI)**—A Glimpse of the Past: The Joso Trestle Construction Camp Project.
- 3:40            **Coffee**
- 4:00            Round Table Discussion of Current Issues SUB 204-205

## FILM SESSION



### **Native American Voices on Film**

Room: SUB 206-207

Chair: **Alexandra Lewis-Lorentz**

#### *Participants—Film Titles*

- 2:00            **Lewis-Lorentz, Alexandra. (WVCC)** *Gannagaro - The Seneca Town of Peace* (copyright 1986) made in conjunction with WXX/TV21 and the New York Dept. of Parks, Recreation and Historic Preservation.
- 2:45            **Molitare, Marilyn (Yakama)** *The Point: Legacy of the River People.*
- 3:10            **Van Pelt, Jeffrey. (CTUIR)** *Not Just Stones and Bones.* (18 min.)
- 3:40            **Van Pelt, Jeffrey. (CTUIR)** *Hatiya (Voices of the Umatilla Indian Reservation)*, produced by Lawrence Johnson Prod., Portland, 1994. (30 minutes)
- 4:20            **Nicastro, Nick. (Cornell University)** *Science or Sacrilege: Native Americans, Archaeology and the Law".*
- 6:00 - 7:30     **Dinner Tunstall Dining Room (for Options I and II)**
- 4:00-5:30     Open House—Resource Management GIS Lab, Lind Hall.
- 6:00            Student Potluck —Anthropology Department, Farrell Hall, 317
- 7:00-8:00     Open House —Anthropology Department, Farrell Hall
- 7:00            Art Dept. Talk, Randall Hall, Rm 118. **R. Kremer** (Holocaust Center, Vancouver, B.C.). *"Museums as Containers of Memory"*

**8:00            Dessert Social with Music, Lombard Room**

8:00- 9:00      **Breakfast Tunstall Dining Room (Option I and II)**

9:00              **KEYNOTE: George Spindler (Stanford) Cultural Therapy and the Influence of Forms of Cultural Knowledge. Room: Cesar Chavez Room (SUB Theatre)**

9:45              **Coffee**

[11]              **ANTHROPOLOGISTS AND EDUCATORS: PERSPECTIVES ON MULTICULTURALISM**

Room: Cesar Chavez Room (SUB Theatre)

Chair: **Loran E. Cutsinger (CWU)**

10:00      **Phelan, Patricia.** (UW-Bothell)—Students' Multiple Worlds Model and Typology.

10:20      **Davidson, Ann.** (U-Pittsburgh Learning Research and Development Center)—Towards Transcending Classroom Borders: Youths' Perspectives.

10:40      **Majsterek, David and Debra Prigge (CWU)**—A Dialogue on the Study of High-incidence Special Needs Students: General and Special Education Perspectives.

11:00      **Tanenbaum, Doreen.** (CWU)—From Socialization to Collaboration: The Reggio Emilia Approach.

11:20      Discussion: **G. Spindler (Stanford)** and **O. Alawiye (CWU)**.

[12]              **SYMPOSIUM: THEORETICAL AND INTERDISCIPLINARY APPROACHES TO THE ANALYSIS OF LITHIC ARTIFACT ASSEMBLAGES, PART I**

Room: Yakama Room

Chairs: **J. Scott King** (Historical Research Associates, Inc.)

**Dennis E. Lewarch** (Larson Anthropological/Archaeological Services)

10:00      **King, J. Scott (HRAI), Dennis E. Lewarch (LAAS), and Patrick T. McCutcheon (UW)**—Measuring Variability in Lithic Artifact Assemblages: A Historical Perspective.

10:20      **McCutcheon, Patrick T. (UW)**—An Archaeological Approach to Meaningful Measurements of Lithic Raw Material Quality.

10:40      **Mierendorf, Robert R.** (Nat Park Service) and **Craig E. Skinner** (Northwest Research Obsidian Studies Laboratory)—Correlation of Artifact and Source Obsidian, North Cascades National Park Service Complex, Washington.

11:00      **Lohse, Ernest and Dorothy C. Sammons (ISU)**—A Computerized Data Base for Lithic Use-wear Analysis.

**FRIDAY**

- [13]           **VOLUNTEERED PAPERS: CURRENT RESEARCH IN COASTAL  
NORTHWEST ARCHAEOLOGY**  
Room: SUB Ballroom  
Chair: **Barbara N. Bicchieri** (CWU)
- 10:00   **Roulette, Bill R.** and **David DeLyria** (Applied Archaeological Research, and  
Archaeological Services of Clark County)—Results of Data Recovery Excavations  
at Site 45CL31, Clark County Washington.
- 10:20   **Stein, Julie K.** (UW/Burke)—The Shell Ridges of British Camp: The Origin of  
Southern Northwest Coast Houses.
- 10:40   **Bovy, Kristine** (UW), **Nancy Sharp** (NWAA)—The Shell Ridges of British Camp:  
Preliminary Faunal Analysis.
- 11:00   **Garvin, Richard** (Okanagan Univ. Col.)—Grave Reflections: The Kincolith Cemetery  
Project.
- 11:20   **Pratt, Heather** (Arcas Consulting Archaeologists)—Recent Investigations at the Beach  
Grove Site.
- 11:40   **Wessen, Gary C.** (Wessen and Associates)—Historical Overview of Olcott: Ideas  
About the Early Prehistory of West Washington
- [14]           **VOLUNTEERED PAPERS: CULTURE AND HISTORY .**  
Room: SUB 206-207  
Chair: **Linda M. Klug** (CWU)
- 10:00   **Fouts, Hillary.** (CWU)—Field Observations of Wild and Captive Sanctuary Living  
Chimpanzees.
- 10:20   **Fullerton, Arline F.** (South Puget Sound C.C.)—The Effects on Society due to the  
Decline of Appropriate Touching: A Cultural Perspective.
- 10:40   **Milestone, Juris** (Eastern Washington Univ.)—The Alchemy of Blacksmithing and  
the Contemporary Significance of this Folk Art.
- 11:00   **Hekala, Tamsin** (WWU)—Peaceweavers, Whores and Hedgewives: Marriage by any  
other Name.
- [15]           **VOLUNTEERED PAPERS: CURRENT RESEARCH IN INTERIOR  
NORTHWEST ARCHAEOLOGY.**  
Room: SUB 204-205  
Chair: **Robert L. Sappington** (UI)
- 10:00   **Vivian, Brian C.** (U. Calgary)—Filling in the Blanks: Exploration and Prehistory in  
Banff National Park.

## FRIDAY

- 10:20 **Luttrell, Charles T.** (Archaeological and Historical Services)—Results of Phase II Archaeological Testing of Benton Meadows Site 10NP314 on Craig Mountain, Idaho.
- 10:40 **Sappington, Robert Lee, Donna Turnipseed (UI) and Ali Abusaidi** (Nez Perce National Forest)—The Prehistory of Nez Perce National Forest.
- 11:00 **Morrison, John** (Washington State Univ.)—Hanford Nuclear Reservation Cultural Chronology: a New Mid-Columbia Chronology
- 11:20 **Miss, Christian J. and Johonna Shea** (Northwest Archaeological Assoc.)—The Smokian and Sam Israel Sites: Archaeological Investigations in the Lower Grand Coulee.

**POSTER SESSION: ALL DAY FRIDAY (PRESENTERS POST TIME FOR DISCUSSION IN PM). POSTERS UP BY 9:00 AM IN THE CHIEF OWHI ROOM AT THE SUB**

**Bestor, William** (Linfield) *Aldeia: the Village and the Project*

**Gilbert, Reta** (EWU) *Blackfeet Stereotypes.*

**Gough, Stan** (EWU) **Fred R. Nials** (Desert Research Institute) and **Jerry R. Galm,** (EWU) *Comparison of Alluvial Chronologies: Northern Great Basin and Columbia Basin.*

**Housely, Lucile A.** (BLM., Lakeview R.A.) *Cultural Plants of the Inter-Mountain West*

**Kaehler, Gretchen A.** (Portland State U)—*The Use of Glass Trade Bead Distribution in Site Analysis.*

**McFarland, Doug, John Pouley and Pam Trautman** (CWU)—*Tryon Creek Micro Archaeology, Hells Canyon, Oregon: Environmental Change and Fill and Floor Layers in a Housepit, 1600-500 BP*

**Morgan, Vera and Glenn Hartmann** (Archaeological and Historical Services )—*Excavations at 45CA426, Sequim Wa.*

**Wright, Patricia.** (Moscow, ID Public Schools)—*Cubalonia: Digging Up the Past.*

**Turner, Scott** (CWU)—*Biomechanical Adaptations in Long Bones of Human Males and Females*

**Davis, Loren** (U. Alberta)—*Archaeological and Geoarchaeological Investigations in the Lower Salmon River Canyon of West-Central Idaho: An Introduction to Research.*

**12:00-1:00 LUNCH, Tunstall Dining Room (for Option I and II)**  
NWAC Business Lunch Meeting Reserved Tables

**Remember the Poster Session ... meet with presenters!**

**Friday afternoon KEYNOTE Speaker is at 4:00 p.m. in the Cesar Chavez Room (SUB Theatre)!**

## FRIDAY

4:00 **KEYNOTE: Joseph G. Jorgensen (UC Irvine)** On Political, Economic, and Environmental Problems of Northwestern North American Natives at the Close of the Twentieth Century, and Remedies for Them.

### [16] **SYMPOSIUM: 20TH CENTURY NATIVE AMERICA: ALASKA AND THE NORTHWEST**

Room: Cesar Chavez Room (SUB Theatre)

Chair: **Tracy J. Andrews (CWU)**

- 1:00 **Donald, Leland** and others (UV)—What the People Said: Kwakwaka'wakw, Nuuchahnulth and Tsimshian Testimonies Before the Royal Commission on Indian Affairs for the Province of British Columbia (1913-1916).
- 1:20 **Worl, Rosita** (UAK., Southeast)—Native Corporations: An Experiment in the Economic Assimilation of Alaska Natives.
- 1:40 **Boxberger, Dan** (WWU)—Anthropologists as Predators: Changing Perceptions of Northwest Coast Research.
- 2:00 **Klein, Laura** (PLU)—Emerging from the Haze: Engendering the N.W. Coast.
- 2:20 **Coffee**
- 2:30 **Robbins, Lynn** (WWU)—Collaborative and Applied Research: A 20-year Trend in the Upper Puget Sound.
- 2:50 **Goodfellow, Anne** (UBC)—Language and Culture Contact on the Northwest Coast.
- 3:10 **Cleary, Kandee** (CWU)—Social Impact of Reservation Gaming: A Case Study from Colville Confederated Tribes.
- 3:30 **Suttles, Wayne** (PSU, Emeritus) \*Tentative
- Discussant: **Joseph G. Jorgensen (UCI)**.

### [17] **SYMPOSIUM: THEORETICAL AND INTERDISCIPLINARY APPROACHES TO THE ANALYSIS OF LITHIC ARTIFACT ASSEMBLAGES, PART II.**

Room: SUB 208

Chairs: **J. Scott King** (Historical Research Associates, Inc.)

**Dennis E. Lewarch** (Larson Anthropological/Archaeological Services)

- 1:00 **King, J. Scott** (HRAI)—An Evolutionary Approach to Measuring Stylistic Variability in Projectile Points: An Example from the SW Washington Cascades.
- 1:20 **Dickerson, Kenneth R.** (UI)—Organization and Technology of an Upland Lithic Industry on the Joseph Plains, Idaho.

## FRIDAY

1:40 **Lewarch, Dennis E. (LA/AS)**—Regional Analysis of Pacific Northwest Artifact Assemblages: An Assessment of Products, Problems, and Prospects.

2:00 Panel

### [18] **SYMPOSIUM: NEW STUDIES ON PRE-CONTACT TECHNOLOGIES ON THE NORTHWEST COAST AND PLATEAU AREAS .**

Room: Yakama Room

Chair: **Farid Rahemtulla** (Simon Fraser U.)

1:00 **Byram, Scott (UO)**—Weir Panels and Basket Traps: Functional Variation in Split Wood Lattice from the Osprey Site on the Coquille Estuary.

1:20 **Dahm, Inge** (Port Coquitlam, B.C.)—Manufacturing Metaphors: The Production of Soapstone Ornaments in the Prehistoric Gulf Islands.

1:40 **Rahemtulla, Farid (SFU)**—External Constraints and Design of Early Period Lithic Technology at Namu, Central Coast of British Columbia.

2:00 **Hall, David (SFU)**—Preliminary Results of the Analysis of the Lithic Assemblage from the Tsini Tsini Site (FcSm 11), Talchako River Valley, B.C.

2:20 **Coffee**

**Schaepe, David (SFU)**—The Maurer Site: Technological Composition and Organization of a 4200 year old Permanent House in the Lower Fraser River Valley.  
*\*Cancel.*

2:40 **Howe, D. Geordie** (Arcas Consulting Archeologists Ltd)—Along the Squamish-Cheakamus Divide: Recent investigations into Prehistoric Alpine Exploitation within Traditional Squamish Territory.

3:00 **Copp, Stan** (Langara College)—A Pre-Mazama Plateau Microblade Tradition Site, Upper Similkameen Valley, British Columbia.

### [19] **SYMPOSIUM: PRESERVING AND EXPANDING CULTURAL KNOWLEDGE: CHANGING PARADIGMS IN C.R.M.**

Room: SUB Ballroom

Chair: **Darby Stapp** (CH2M Hill Hanford, Inc.).

1:00 Invocation

1:05 **Stapp, Darby** (CH2M Hill) Introduction

1:10 **Stapp, Darby and Julia Longenecker (CTUIR)**—Tribes and Cultural Resource Management in the Mid-Columbia River Region: A Look to the Future.

## FRIDAY

- 1:30 **Marceau, Thomas E.** (Bechtel Hanford, Inc.)—The 100-KR-4 Pump & Treat Project: Native American Involvement in the Redesign of a Remedial Project on the Hanford Site, Washington.
- 1:50 **Croes, Dale R.** (South Puget Sound C.C.)—The Hoko River Wet Site: A Joint Tribe/University Research Effort.
- 2:10 **Griffin, Dennis** (UO)—Community Supported Archaeology in the Arctic: A Reconstruction of the History of Nash Harbor Village, Nunivak Island, Ak.
- 2:30 **Coffee**
- 2:40 **Thompson, Gail** (Historical Research Associates Inc.)—Opportunities and Limitations for the Tribal Involvement in Studies Conducted under Section 106 of the National Historic Preservation Act.
- 3:00 **Hudson, Douglas** (Univ. College-Fraser Valley)—Grounding Culture: Contemporary Research on Interior Salish Culture.
- 3:20 **Kiefer, Kathy** (Grant Co. PUD)—Implementing the Grant County P.U.D. Agreement to Perpetuate Wanapum Indian Culture.
- 3:40 **Van Pelt, Jeffrey.** Confederated Tribes of the Umatilla Indian Reservation: Film—Not Just Stones and Bones.
- 4:00 **Van Pelt, Jeffrey, Michael S. Burney, and Thomas Bailor** (CTUIR)—Protecting Cultural Resources on the Umatilla Indian Reservation.
- 4:20 Discussion: **David Rice** (USACE-Seattle) Phillip Minthorn (National Museum of Natural History).

[20]

### VOLUNTEERED PAPERS IN ARCHAEOLOGICAL METHODS AND INTERPRETATIVE APPROACHES

Room: SUB 206-207

Chair: **Hackenberger, Steve** (CWU).

- 1:00 **Casserino, Christopher M.** (EWU)—Quantitative Comparison of Bacterial DNA extracted from Archaeological and Modern Deer Bone.
- 1:20 **Barclay, Matt, Mary Albright and Dale R. Croes** (South Puget Sound C.C.)—Digital Excavation of the Hoko Rockshelter.
- 1:40 **Onat, Astrida R. Bukis** (BOAS, Inc.)—Snake and Beaver Lived There.

## FRIDAY

- 2:00 **Huelsbeck, David R** (Pacific Lutheran Univ.) and **Ian Ritchie** (US Forest Service)—Alpine Resources in the Central Cascades: Casual Supplement or Critical Contributor?
- 2:20 **Bush, Kelly** (WWU)—Survey Investigations in the Upper Skagit River Valley, British Columbia: Results of Project.
- 2:40 **Coffee**
- 3:00 **Delaney, Timothy V.** (Portland State Univ.)—The Spatial Distribution of Lithic Debitage in One Northwest Coast Plank House as an Indicator of Social Status Variability.
- 3:20 **Turnipseed, Donna** (UI)—Lessons from a Ditch.
- 3:40 **Clark, Jorie** (USFS-Winema Nat. Forest )—Archeological Investigations of a 20th Century Railroad Logging Campsite in Eastern Oregon: A Passport in Time Project.

[21]

### SYMPOSIUM: PAPERS ON OREGON ARCHAEOLOGY

Room: SUB 204-205

Chair: **Pamela Endzweig** (Oregon State Museum of Anthropology)

- 1:00 **Kramer, Steve** (OSU), **Ann Bennett-Rogers** (OSU) and **Anthony Farque** (Willamette National Forest)—Hidden Sites-Found Sites: Implications for Cultural Resource Surveys in the Forested West.
- 1:20 **Connolly, Thomas J., Charles M. Hodges, Guy L. Tasa** and **Brian L. O'Neill** (UO)—Cultural Chronology and Environmental History in the Willamette Valley, Oregon.
- 1:40 **Wilson, Douglas C.** (Archaeology Consulting)—A Theory of Fire-Cracked Rock.
- 2:00 **Bennett-Rogers, Ann** (OSU) and **Anthony Farque** (Willamette Nat. Forest)—Crazing and Grazing: the Archaeology of Gordon Meadows.
- 2:20 **Coffee**
- 2:40 **Sobel, Elizabeth** (Univ. of Mich.)—The Role of Euroamerican Metals in Native Status Systems in the Lower Columbia River Basin.
- 3:00 **Jenkins, Dennis L.** (Oregon State Museum of Anthropology)—Early to Middle Holocene (12,000 to 5,000 BP) Cultural Transitions in the Northern Great Basin of Oregon: Was Bedwell (1970) Right?
- 3:20 **Pettigrew, Richard M.** (Independent)—Obsidian Hydration Rates in Eastern Oregon.
- 3:40 **Mack, Joanne M.** (Pomona College)—Variation in House Depressions: Upper Klamath River.



## FRIDAY

4:00 **Schaefer, Christopher** (UW)—Obsidian Distribution Patterns within the Upper Klamath River Canyon.

4:00 **KEYNOTE: Joseph G. Jorgensen** (UC Irvine) On Political, Economic, and Environmental Problems of Northwestern North American Natives at the Close of the Twentieth Century, and Remedies for Them.  
ROOM: Cesar Chavez Room (SUB Theatre).

5:00 Association of Washington Archaeologists Business Meeting. SUB 206-207

5:00 Association of Oregon Archaeologists Business Meeting. SUB 204-205

### 5:00 **BOOK SIGNING.**

Author and Banquet Speaker Laura B. Nader will be available to sign her most recent book, *NAKED SCIENCE: Anthropological Inquiry into Boundaries, Power, and Knowledge* at the SUB Chief Owhi Room.

### 6:00-7:15 **BANQUET DINNER AT TUNSTALL DINING ROOM**

7:15 **BANQUET SPEAKER: Laura B. Nader** (UCB) *Naked Science and the Science Wars*



8:00-9:00 Breakfast, Tunstall Dining Room

9:00 **KEYNOTE: R. Dale Guthrie** (UA-Fairbanks) Paleocology of Beringia and Its Relevance to Colonization of North America .  
Room: Cesar Chavez Room (SUB Theatre)

[22] **SYMPOSIUM: NORTHWEST PLEISTOCENE PALEOANTHROPOLOGY AND PALEOENVIRONMENTS**

Room: Cesar Chavez Room (SUB Theatre)

Chair: **John Alszszatai-Pettheo** (CWU)

- 10:00 **Harris, Heather** (UNBC)—Late Pleistocene Environments from Northern Northwest Coast Oral History.
- 10:20 **Miller, Fennelle and Jack Powell** (WA ST DNR)—What Every Archaeologist Should Know about Geology, But Was Afraid to Ask.
- 10:40 **Mathewes, Rolf W.** (SFU)—Paleocology of a Lost World: Late-Glacial Paleoenvironments of the Continental Shelf of Northwestern Canada.
- 11:00 **Stein-Mandryk, Carole A.S.** (Harvard)—Late Quaternary Paleoenvironments of Northwestern North America; Implications for Inland vs. Coastal Migration Routes.
- 11:20 **Alszszatai-Pettheo, John** (CWU)—When is an Artifact not an Artifact, or a Geofact not a Geofact?: an Empirical Alternative to Validation by Committee

[23] **SYMPOSIUM: INTERDISCIPLINARY INVESTIGATIONS AT K'WATCH (LOCKE ISLAND)**

Room: SUB Ballroom

Chair: **Paul R. Nickens** (Batelle-Pacific Northwest National Laboratory)

- 10:00 **Nickens, P. R.** (BNNL)—Locke Island: Why is it Important and Why are We Concerned about it?
- 10:20 **Bjornstad, Bruce and Natalie A. Cadoret** (BNNL)—Geology and Geomorphology in the Vicinity of Locke Island, Hanford Site, Washington.
- 10:40 **Cadoret, Natalie A.** (BNNL)—Erosional Processes along the Eastern Edge of Locke Island.
- 11:00 **Wright, Mona K.** (BNNL)—A Preliminary Examination of Archaeological Deposits in Eroding Cutbanks at K'watch (Locke Island).

## **SATURDAY**

- 11:20 **Barkley, Lloyd L. and Manfred E.W. Jaehnig (CTUIR)**—Locke Island Archaeology and the CTUIR.
- 11:40 **Patrick, Julius and Manfred E.W. Jaehnig (CTUIR)**—Recent Mapping of Archaeological Data on Locke Island.
- 12:00 **Lloyd, Dee W. (DOE)**—Locke Island and “Who’s on First”: A Cultural Resource Manager’s Predicament.
- 12:20 Discussion: **David Rice (USACE-Seattle)** and Gregg Cleveland (Yakama Nation)

[24]

### **VOLUNTEERED PAPERS ON NORTHWEST/PLATEAU CULTURES .**

Room: Yakama Room

Chair: **Tracy J. Andrews (CWU)**.

- 10:00 **Striker, Michael (3D/International, Environmental Group)**—Evaluating the Cultural Significance of Animals in Traditional Cultures.
- 10:20 **Mack, Cheryl A. and Richard H. McClure (Gifford Pinchot Nat. Forest)**—Horses and Huckleberries in the High Cascades- the Ethnoarchaeology of Kalama’t.
- 10:40 **Eiselein, E.B. (A&A Research)**—Sweating to the Oldies: The Urban Inter-Tribal Sweat Lodge.
- 11:00 **Brown, Kimberly Linkous (Western Washington Univ.)**—The Effects of the Alaska Native Claims Settlement Act (ANCSA) in Southeast Alaska: an Examination of “Perceived Profitability vs Long Term Success.”
- 11:20 **Butler, Caroline (Univ. British Columbia)**—Imagining Nunavut: Ethnonationalism and Ethnogenesis in the Canadian North.
- 11:40 **Ackerman, Lillian A. (Washington State Univ)**—Proto-Historic Hostilities in the Plateau.
- 12:00 **Wessen, Gary (Makah Cultural and Research Center)**—Culturally-Modified Trees on the Makah Indian Reservation, Washington.

[25]

### **SYMPOSIUM: THE VASHON PROJECT**

Room: SUB 206-207

Chair: **Julie Stein (UW/Burke)**

- 10:00 **Stein, Julie K. (UW/Burke)**—Vashon Island Archaeological Project: A Public Education Project.

## **SATURDAY**

- 10:20 **Phillips, Laura** (Burke) **Timothy Allen** (UW) **MaryAnn Emery** (UW)—Vashon Island Archaeological Project: Artifacts.
- 10:40 **Kopperl, Robert** (UW) **Kristine Bovy** (UW) **Virginia Butler** (Portland State Univ.), **Laura Phillips** (Burke), **Nancy Stenholm** (Botana Labs)—Vashon Island Archaeological Project: Fauna and Flora.
- 11:00 **Stein, Julie K.** (UW/Burke) **Laura Phillips** (Burke)—Vashon Island Archaeological Project: Results and Conclusions.
- 11:20 **Sterud, Bill** (Chairman, Puyallup Tribe)—Comments on the Vashon Archaeological Project.

[26]

### **SYMPOSIUM ON GIS APPLICATIONS**

Room: SUB 204-205

Chair: **William C. Smith** (CWU)

- 10:00 **Schneider, Bruce** (CWU)—GIS, 'Glory Holes' and the 'Ultimate Artifact': Identifying Topographic Change in an Historic Mining Landscape.
- 10:20 **Berry, Jeff** (Inst. Minnesota Arch)—A Distributional Approach to Understanding Lithic Scatters in the Yakama River Basin: A GIS Application.
- 10:40 **Alford, Mary** (CWU)—Xnit, "Plants Dug for Food": GIS Modeling of Early Root Crop Maturation on the Mid-Columbia Plateau.
- 11:00 **Kohler, Timothy** (WSU)—Beyond GIS: Swarm-based Modeling of Prehistoric Settlement Systems in Southwestern North America.
- 11:20 Discussion: **S. Hackenberger** (CWU)

## **ALSO SATURDAY:**

**Public Chimposiums 9:15 and 10:45 (\$7.50 Student; Other \$10.00)**

**Chimpanzee Communication Workshop (w/30 min Chimp Observation) 1:30-3:30 PM (\$20.00)**

*Make reservations - Call 509-963-2244!!!!*

## KEYNOTE SPEAKER ABSTRACTS

**REID A. BRYSON.** Center for Climactic Research, University of Wisconsin. *Human Scale Climatology for Archaeologists.* If meaningful results are to be derived from studies of the interaction between human strategies and climate, human responses to the specifics of climate change (e.g., responses to changes in the reliability, magnitude, seasonality, or frequency of rainfall, for example) rather than to climate change in general should be addressed. This concern relates directly to both the temporal and geographic resolution of paleoclimatic models regardless of the cultural group or time period of interest. People live in relatively small regions and the durations of cultures are largely measured in terms of a few centuries. Until recently the results of paleoclimatic analyses lacked the specificity needed to adequately evaluate the characteristics of these dynamics. It now appears possible, however, to produce useful site-specific simulations of past climates with a temporal resolution on human scales, although not yet on the scale of decades. (Bryson and Bryson, 1996) Despite the fact that its methodology has only been developed in the past few years, archaeoclimatic modeling offers considerable promise as a means of gaining insight into the specifics of climate change. To date, the results of these simulations have compared favorably with paleoclimatic reconstructions based on other modeling techniques and analyses of paleoenvironmental proxy data. This sort of high-resolution paleoclimatic modeling was used to produce the site-specific reconstructions which will be presented. How useful these simulations will ultimately be can only be addressed in light of comparison with cultural and paleoenvironmental field data and further improvements to the modeling and interpretive methodology. [6]

**ROGER FOUTS.** Central Washington University. *Chimpanzee Conversation.* [1]

**R. DALE GUTHRIE.** University of Alaska-Fairbanks. *The Paleocology of Beringia and Its Relevance to Colonization of North America.* Although common wisdom sees temperature as the key regulator of vegetation patterns, animal distributions and biomass in northern latitudes, during the Pleistocene, at least, aridity seems to have been equally important. More than reduced precipitation, this Pleistocene aridity was the proximate result of increased evaporation due to wind and reduced cloud cover. Modern lowland tundra is thus a poor analog to these Pleistocene northern steppes because our present lowland tundras are a maritime product, parented by the seasonal interaction of warm land and a cold sea. Land-sea contact generates a damp, low lying cloud cover that keeps the brief northern summer in these tundra regions cold and moist. In contrast, the treeless belt of the Mammoth Steppe seems to have been primarily aridity driven. Yet this steppic belt which circled the globe had a more mesic buckle at the juncture of Asia and North America. This moist buckle zone formed a barrier to some biotic distributions between the two continents, preventing such animals as woolly rhino, camel, bonnet-horned musk oxen, short-faced bears, American asses, and American badger from intercontinental expansion. But it probably had little effect on humans. Across northern Eurasia the cold and arid full Glacial climate of the Mammoth Steppe held human distribution to more southern latitudes. Holocene amelioration allowed colonization northward. The exact chronology and route of human colonization northward is controversial but other mammals can be used as proxy species, allowing us to at least approximate the window of first opportunity. [22]

**JOSEPH G. JORGENSEN.** University of California, Irvine. *On the Political, Economic, and Environmental Problems of Northwestern North America's Natives at the Close of the Twentieth Century, and Remedies for Them.* The last quarter of the century has occasioned a remarkable growth in federal and corporate activities that have affected the environments, economies, politics, and legal statuses of Indian, Eskimo, and Aleut communities in western North America. The focus here will be on three issues of significance to Natives of northwestern North America, issues in which anthropologists, often in league with other scientists, have joined attorneys in pursuing remedies in federal courts, or in the Congress of the United States, or in hearings conducted by any state regulatory agencies. Remedies will be suggested for the failed attempts by anthropologists and attorneys to rectify the three problems assessed. Two of the problems constitute something of a package inasmuch as both focus on suits brought in federal courts to remedy cultural damages as consequences of environmental damages, one caused by a normal industrial accident--the Exxon Valdez oil spill--and the other caused by the flushing of heavy metals and other toxic wastes by several mining firms into a several river systems over 120 years. In these cases, all of which are ongoing, anthropologists and other scientists are involved. It is the nature of the involvement of anthropologists on which I focus my concern. The third problem is very different from the preceding inasmuch as the very definition of who is an Indian and what constitutes a tribe are at stake. There are dozens of Indian tribes in the northwestern United States that are not acknowledged as tribes by the federal government. Many of these tribes with help from anthropologists have petitioned, unsuccessfully, to be recognized. Recognition will grant the newly acknowledged tribe the rights and privileges to trust land, federal protection, and proportions of the sundry pieces of the federal budget that are distributed annually to acknowledged tribes. Anthropologists in the employ of the government have been the final judges on the adequacy of the petitions that are filed. Few, perhaps none, of the currently acknowledged tribe can now, or in the distant past could have satisfied the requirements for compliance established by the BIA employees. [16]

**LAURA NADER.** University of California, Berkeley. *Naked Science and the Science Wars.* The anthropological study of science is an old tradition, one that recognizes multiple traditions of science. In the late 20th century increasing numbers of modern scientists are crossing paths with indigenous peoples. Juxtaposition empowers us to reflect on the thesis that a scientific habit of mind is universal as we review a spectrum of knowledge in agricultural technologies, resource management, pharmaceuticals, navigational knowledge, irrigation systems, provisions of food and transportation. In this light there is a parochial nature to the science wars. We need not idealize the dominant western science tradition to make the point that there are different types of knowledge that provide valid truths of use to human kind. If a dominant science silences that knowledge we all lose. The point is to open people's minds to formulate new ways of thinking globally about science traditions. The issue for technoscience is not a "failure of image", rather image making is the failure that sets up barriers to thinking creatively. **Banquet Speaker.**

**GEORGE SPINDLER.** Stanford University. *Cultural Therapy and the Influence of Forms of Cultural Knowledge.* Teachers faced with the cultural diversity of contemporary classrooms in America need to get their cultural house in order. We think the way to do that is to use cultural therapy, which is a process of holding up before the teacher examples of their own classroom behavior and the behavior of teachers in other cultures, thus stimulating reflection by the teacher on her/his own procedures and assumptions. This enhances the ability of the teachers to understand the cultural diversity of their classrooms. [11]

## 50TH NWAC — SYMPOSIUM ABSTRACTS

**JOHN A. ALSOSZATAI-PETHEO.** Central Washington University. *Northwest Pleistocene Paleoanthropology and Paleoenvironments.* Traditional archaeological research into the Pleistocene prehistory of the Americas has largely followed an approach where contributions from the natural sciences and other fields have played primarily or exclusively a supportive or ancillary role in reconstructing the past. More recently, excavators working at early sites such as Monte Verde (Chile) have realized that the model of interactive, synchronous, multidisciplinary field and laboratory research characteristic of modern paleoanthropology is more appropriate, and can yield vastly improved insights compared to traditional approaches. Following the lead of our keynote speaker, Dr. R. Dale Guthrie (*The Paleoecology of Beringia and its Relevance to Colonization of the New World*), this session presents a set of five papers from authors employing different methods, pursuing different immediate goals, which nonetheless reflect the importance and potential value of truly multidisciplinary approaches in unraveling the very complicated story of the initial entry of peoples, and the early prehistory of the Americas. [22]

**TRACY J. ANDREWS.** CWU. *20th Century Native America: Alaska and the Northwest.* This session provides perspectives on topics of major interest in the anthropology and sociology of Native American studies in northwestern North America, including Alaska. The role of professional academics, the collaborative efforts of tribes and research professionals, and new ways of understanding cultures that have developed in recent years are assessed, and future directions for expanding and improving our knowledge base are suggested. The continuing impact of federal political and economic policies in shaping a national vision for the future of Native Americans, and their responses, also is addressed in session papers and by the session's Keynote Speaker, Dr. Joseph Jorgensen. [16]

**LORAN CUTSINGER.** CWU. *Anthropologists and Educators: Perspectives on Multiculturalism.* Teachers and those who are learning to become teachers need tools to help them understand their own cultural perspectives so that they can best teach children of diverse cultures. This session brings together anthropologists, educators and students to discuss various ways of understanding the culture of teaching, toward our common goal of creating cultural practices that teach humanely, productively and with respect. [11]

**TRACY J. ANDREWS.** CWU. *Culture, Health and Healing.* This session provides information on applied and theoretical issues related to cross-cultural perspectives on health and healing. The session participants come from both academic and health professional backgrounds. They highlight the critical need for integrating interdisciplinary perspectives to meet the challenge of providing affordable, accessible, and culturally appropriate health and social services on local, regional and international levels. [9]

**PAMELA ENDZWEIG.** Oregon State Museum of Anthropology. *The Association of Oregon Archaeologists: Papers on Oregon Archaeology.* The Association of Oregon Archaeologists is a non-profit organization dedicated to the protection and enhancement of prehistoric and historic archaeological resources. The symposium presents current research in Oregon, covering 11,000 years of human history and diverse environments ranging from interior valleys to High Desert and Cascades. [21]

**AGUSTIN FUENTES.** CWU. *The Many Faces of Primate Research.* This session seeks to provide a glimpse into the wide body of non-human primate research. Elements of primate conservation, cognition, general behavior, theory and practice will be presented. Because of the many primate research facilities and institutes in the Northwestern U.S. the establishment of a forum for the presentation and discussion of this type of research at the Northwestern Anthropological Conference would benefit both students and faculty researchers. [1]

**DOUGLAS H. MACDONALD.** Washington State University. *Current Anthropological Research Among Graduate Students at Washington State University.* For several decades, the Department of Anthropology at Washington State University (WSU) has been at the forefront of interdisciplinary anthropological research. In this symposium, graduate students from WSU continue this tradition by presenting results of recent investigations in various regions, including the Columbia Plateau, the Great Basin, the Southwest, Alaska, and Central Africa. Problems addressed in these papers include Anasazi warfare and migration, early Paleoindian social mobility, diet breadth of Great Basin foragers, Aleut pithouse construction and use, and breastfeeding among the Aka Pygmies, among others. These students, utilizing a bewildering variety of methods and theories, have succeeded in attaining high quality anthropological research despite ever-increasing budgetary and competitive challenges. [3] [17]

**PAUL R. NICKENS.** Battelle-Pacific Northwest National Laboratory. *Interdisciplinary Investigations at K'watch (Locke Island).* Locke Island, a large island in the Hanford Reach of the Columbia River, contains mostly undisturbed and very significant cultural materials. Archaeological sites on the island were first recorded in 1968, and in 1976 the island was officially recognized as the centerpiece of the Locke Island Archaeological District on the National Register of Historic Places. The island and surrounding area were used into historic times by Native Americans as an annual fishing location for Fall Chinook Salmon. To the Wanapum, the island is known as *K'watch*. Over the past two decades, river bank erosion increased as a threat to the archaeological remains. In 1996, interdisciplinary studies were initiated to gain an understanding of the physical processes affecting the island and the impacts to cultural materials and features. Viewed collectively, the results of these investigations contribute a significant body of data about the significance of the island and its cultural remains, and also the magnitude of the threat to the integrity of this important place. [23]

**ASTRIDA R. BLUKIS ONAT.** BOAS, Inc. *Revisiting Palouse Canyon.* In the course of conducting a four-year project to develop a Cultural Resource Management Plan for the Palouse Canyon Archaeological District (PCAD), we discovered that the key site for the District, the Marmes Rockshelter, and the District as a whole could use a conference revisit for a number of important reasons. 1) The work in the PCAD before and after Marmes was instrumental in providing the public support needed to pass legislation which has now produced the Management Plan. 2) Native American tribes are much more involved in the archaeological process today and potential exists for a dialogue that would be of mutual benefit. 3) An entire generation of the general public and students of archaeology have grown up with only anecdotes about the Marmes Rockshelter, the key site within the PCAD. The status of the site and materials from it needs an update. 4) Analytical techniques used by archaeologists are broadly represented in the work that has taken place in the PCAD from the 1960s to the 1990s. The Symposium has been organized to address each of the four topical areas, to review the history of the PCAD, and to assess the place of the District with regard to contemporary cultural issues. [5] [10]



**FARID RAHEMTULLA.** Simon Fraser University. *New Studies on Pre-contact Technologies on the Northwest Coast and Plateau Areas.* In recent years researchers have been examining pre-contact technologies within a wide scope. In some cases techniques of manufacture have been the primary focus while in others, attempts have been made to relate aboriginal technologies to various aspects of socio-economic organization. These approaches are instructive and can potentially contribute much to our understanding of pre-contact lifeways. This symposium brings together a diverse group of researchers who focus on Northwest Coast and Plateau pre-contact technologies within this broader scope. [18]

**DARBY C. STAPP.** CH2M Hill Hanford, Inc. *Preserving and Expanding Traditional Cultural Knowledge: Changing Paradigms in Cultural Resource Management.* One key to preserving and expanding cultural knowledge is the protection of the cultural resources that form the basis for much of this knowledge: the archaeological sites; the landforms mentioned in the stories; and the hunting grounds, root grounds, or rivers that provide the traditional foods and other resources. To ensure protection of such resources, Native American Tribes and Nations are becoming more and more involved in the field of cultural resources management. As the field has come to appreciate the importance of cultural resources to perpetuating the lifeway and traditions of indigenous peoples, cultural resource management has begun to grow in new directions. [19]

## 50TH NWAC — PAPER AND POSTER ABSTRACTS

**ALI ABUSAIDI.** [15]

**LILLIAN A. ACKERMAN.** Washington State University. *Proto-Historic Hostilities in the Plateau.* Verne Ray's evaluation of Plateau societies as being essentially peaceful has been contradicted by Suttles and Kent in short papers. The latter two scholars have pointed out that various hostilities have been recorded in the ethnographic literature, and therefore have denied Ray's assessment of the pacifism he sees in Plateau culture. I will review some of the incidents of fighting recorded in the Plateau literature and analyze the three kinds of hostilities, which I classify as warfare, raids, and feuds. True warfare occurred among Plateau societies, but was rare. Raids and feuds were more frequent, but nevertheless, I agree with Ray that Plateau societies were pacifistic in proto-historic times. Ray never argued that the Plateau people were outside the human norm of aggression. Instead, they had a great deal of restraint against hostilities built into the culture. This led to an ideal of pacifism that was generally observed. [24]

**MARY ALBRIGHT.** [20]

**MARY ALFORD.** Central Washington University. *Xnit, "Plants Dug for Food": GIS Modeling of Early Root Crop Maturation on the Mid-Columbia Plateau.* The settlement patterns of the prehistoric inhabitants of the Columbia Plateau were timed in such a way as to efficiently utilize available resources, of which root crops were a primary source of dietary nutrition. In the case of such root crops as camas and lomatium, it was necessary to time spring movements to match the timing of plant maturation for each harvest area. Thus areas with early plant maturation would most likely be the first locations for harvest activities in the spring. The purpose of this project is the creation of a GIS "Greening Model" which identifies possible locations for early root crop maturation. [26]

TIMOTHY ALLEN. [25]

**JOHN A. ALSOSZATAI-PETHEO.** Central Washington University. *When is an Artifact not an Artifact, or a Geofact not a Geofact? An Empirical Alternative to Validation by Committee.* Most archaeologists are seldom faced with highly or totally ambiguous field data. At most sites recognition of artifactual types, from past experience, artifact form, recurrent nonrandom patterning, spatial relationships, or context are usually sufficient to distinguish human from natural agencies. However, at a small number of potential early American sites, our inability to decisively distinguish through empirical means between human and natural agencies continues to feed a long-standing impasse. Citing three examples of locales where opposing arguments have failed to reach a common solution, this paper proposes an alternate path to problem resolution. Current approaches in the debate are rejected in favor of an explicitly empirical method, capable of providing clear falsification criteria. The paper also reports on a current independent research program aimed at arriving at such falsification criteria. [22]

**TRACY ANDREWS, VICKIE YBARRA, and TERESA MIRAMONTES.** Central Washington University; Yakima Valley Farm Workers Clinic; Central Washington University. *Health & Healing of Undocumented Immigrant Women in the Yakima Valley: A Project in Progress.* The provision of affordable and accessible health and social services is a major challenge and critical need on local, regional and national levels in this country. From its inception in 1978, the Yakima Valley Farm Workers Clinic (YVFWC) has sought to address the health care and social service needs of the underserved, those without financial resources, migrant and seasonal farm workers, immigrants—including those without documentation, and others in the community. Increasing numbers of undocumented Mexican immigrant women of childbearing age are moving to, and settling in Yakima County. Importantly, there is no research to help elucidate the circumstances surrounding these women. This pilot project is designed as an exploratory, qualitative study to contribute a starting point for such inquiry. It will serve as a basis for designing more in-depth research to answer questions relevant to the understanding of, and improving health and social services for, this significant segment of YVFWC's target population. Such information also will potentially benefit a similar population of immigrant women who reside throughout the Northwest and the U.S./Mexican borderlands. The main topic areas to be addressed in the pilot project include, 1) migration history, 2) breast feeding, and 3) use of traditional and biomedical health care services. [9]

THOMAS BAILOR. [19]

**THOMAS BAILOR, MICHAEL S. BURNEY, and JEFF VAN PELT.** Confederated Tribes of the Umatilla Indian Reservation. *The Discovery of the Kennewick Ancient One Raises More Questions about Archaeology and the Future of Cultural Resources Management that He Can Help Answer.* The discovery of a Paleo-Indian in Kennewick, Washington has raised a lot of attention amongst the public and scientific community, however, it has not raised public awareness about cultural resource management. In fact, many of the so called "scientific" issues raised by this case are overshadowing many real archaeological and CRM issues. The discovery was within an archaeological district that is listed on the National Register of Historic Places (NRHP) in an area known to contain Native American Cemeteries. The Systems Operation Review of the federal hydro-electric project clearly demonstrates that archaeological sites are effected daily by the operations of the Columbia River and have been for over 50 years. Discoveries such as the Ancient One, Marnes rock shelter, and numerous archaeological districts in the

area certainly demonstrate the antiquity of the region. Even so very little has been invested by U.S. Governmental agencies or the scientific community toward the management of such resources. Cultural resources are being destroyed daily. Documentation of the sites in the region is outdated, incomplete, and substandard. The Ancient One was discovered only because of neglect. [8]

**VICTOR R. BAKER.** [6]

**MATT BARCLAY, MARY ALBRIGHT and DALE CROES.** South Puget Sound Community College. *Digital Excavation of the Hoko Rockshelter. A Shell Midden Habitation Site on the Northwest Coast of North America.* We have begun digitizing over 1,000 slides depicting the excavation of up to 3 vertical meters of shell midden at a prehistoric fishing camp located inside a large rockshelter at the mouth of the Hoko River, Olympic Peninsula, Washington. Every 5 cm surface of each 1x1 meter square was photographed in color slides and black and white photos, providing exceptionally good resolution for photographically "re-excavating" the entire rockshelter habitation area. Squares that were excavated years apart can now be viewed as continuous horizontal surfaces for the first time. Features can be carefully explored from top to bottom and over the surface area. Cross-section views of the trench walls can also be quickly observed to see how any surface appears in profile. With new computer technologies, these color slide images provided valuable new digitized data for re-examining and exploring large areas of a site. These techniques greatly enhance geoarchaeological reporting of sites that were dug over several excavation seasons. [20]

**LLOYD L. BARKLEY and MANFRED E. W. JAEHNIG.** Confederated Tribes of the Umatilla Indian Reservation. *Locke Island Archaeology and the CTUIR.* Locke Island is a relatively large island in the Hanford Reach of the Columbia River; it is also a very small portion of the total Hanford Site. The north-eastern shore of the island has been eroding severely because a large, active landslide on the Grant County side of the Columbia River. The CTUIR got involved in the archaeology of the island since it is at the boundaries of the territory ceded to the U.S. Government by the CTUIR, and because the Cultural Resource Protection Project of the CTUIR has trained staff for such work. Training includes field techniques, aboriginal lifeways and artifact recognition learned at a week-long cultural resource technician training course taught by flintknappers, field supervisors, and professional archaeologists. Aerial photographs of Locke Island taken last year by CTUIR personnel provide an overview of surface features on the island. [23]

**ABIGAIL P. BECK and PETER J. MEHRINGER, JR.** Washington State University. *7000 years of Climate, Vegetation, and Fire: Blue Mountains, Oregon.* Analyses of fossil pollen, spores, algae, and charcoal from Lost Lake, Umatilla National Forest and from Twin Lakes, Wallowa-Whitman National Forest suggest changes in forest fire frequency and intensity during the period since the eruption of Mt. Mazama (6850 B.P.). At Lost Lake, layers of charcoal-rich sediment and microscopic charcoal deposited between 3400 and 2000 B.P. attest to frequent intense fires. At Twin Lakes charcoal-rich layers occurred between 6800-4800 B.P. whereas microscopic charcoal remained abundant until about 4000 B.P. At both sites declining charcoal and pollen from introduced or weedy species attest to effects of historical fire suppression and disturbance. These variations in charcoal abundance correspond to climate shifts reflected in variable water depths and forest composition. The most important of these occurs at about 4000 B.P. [6]

**ANN BENNETT-RODGERS.** [21]

**ANN BENNETT-ROGERS and ANTHONY FARQUE.** Oregon State University; Willamette National Forest. *Crazing and Grazing: The Archaeology of Gordon Meadows.* Gordon Meadows, located on the west slope of the Central Cascade Mountains of Oregon was the focus of limited archaeological testing in 1993. The area had been historically utilized for over a hundred years, obliterating surface indications of possible prehistoric sites. Our fieldwork suggests that the Gordon Meadows area was utilized for a variety of resource procurement strategies. These strategies revolved around a base camp and limited activity task specific sites along a trail system. This overview is presented within the context of a regional framework for the western Cascades. [21]

**KATHRYN BERNICK.** Freelance archaeologist, Vancouver, B.C. *Public Exposure: Promoting Archaeology in the '90s.* Working relationships among British Columbia First Nations, archaeologists, and museum professionals have changed dramatically over the past decade. Today, public interpretation of local archaeological research cannot be done without participation of First Nations. However, the nature and logistics of participation are open considerations and consequently potential victims of political agendas. Recent experience curating the UBC Museum of Anthropology exhibit "From Under the Delta: Wet-Site Archaeology in the Lower Fraser Region of British Columbia" illustrates the point. A contentious issue arose just before the exhibit was scheduled to open — one of the First Nations concerned demanded changes in the museum's collections policy and used the exhibit as leverage for negotiation. Consequent changes to the exhibit were not substantive; however, they have detracted from the original fluency of the text enough so that a reviewer characterized it as "painfully politically correct." [8]

**JEFF BERRY.** Institute of Minnesota Archaeology. *A Distributional Approach to Understanding Lithic Scatters in the Yakima River Basin: A GIS Application.* Typically, archaeologists have relied on morphological evaluations to define what is and is not culturally produced lithic scatter. However, location and association are also important elements in the definition of an artifact, and GIS is an appropriate tool for describing and understanding these elements. This paper attempts to use GIS to identify the spatial characteristics of 5 lithic scatters in the Yakima River Basin, and then to identify patterns in the spatial distributions of debris categories which are indicative of cultural or natural activity. [26]

**WILLIAM BESTOR.** Linfield College, Portland Division. *Medical Anthropology in a Portuguese Village.* A small community in Portugal is the site of an ongoing multi-decade research project. This community has emerged from a folk culture to a changing and modernizing environment following the Portuguese Revolution and the introduction of a national health care system. The paper reflects on two aspects of health: Mental health from a study of self-assessment; and physical health, from an examination of medical records. The unique context of a longitudinal research study with multiple measures on the same individuals across time is suggestive for others interested in medical and psychological anthropology, folk culture, European community studies, Luso-Brazilian studies, and culture change. [9]

**BRUCE N. BJORNSTAD and NATALIE A. CADORET.** Battelle-Pacific Northwest Laboratory. *Geology and Geomorphology in the Vicinity of Locke Island, Hanford Site, Washington.* Locke Island is being severely eroded by channel diversion and restriction by irrigation induced landslides near the "horn" of the Columbia River on the Hanford Site. At least six major strata can be correlated in late Holocene alluvium along the cutbank exposure, based on differences in texture, color, and/or moisture. Buried soil horizons consist of weakly developed A (organic-rich) and C (calic) horizons. An accumulation rate, based on radiocarbon ages obtained from the cutbank exposure is ca. 1.3m/1,000 yrs. The geo-

morphology of the island includes Pleistocene-age giant current ripples at the north end of the island. To the south are alluvial plains dissected by scour channels and depressions, all of which formed during periodic floods during the past few millennia. Less scouring and more deposition occurred in the middle and southern portions of the island. Except for recent cutbank erosion, Locke Island has not undergone any appreciable geologic change in the last 50-60 years. [23]

**ROB BONNICHSEN.** Center for the Study of the First Americans, Oregon State University. *An Update on the OSU Molecular Archaeology Program: Analyzing and Extracting DNA from Ancient Hair.* [6]  
\*Tentative

**KRISTINE BOVY.** [25]

**KRISTINE BOVY and NANCY SHARP.** University of Washington; NWAA. *The Shell Ridges of British Camp: Preliminary Faunal Analysis.* Operation D at British Camp (45SJ24) is characterized by a shell ridge which may define the exterior boundary of a house structure. Since the radiocarbon dates indicate a relatively brief period of occupation (ca. 600 AD), the faunal analysis provides valuable insights into the spatial aspects of a house structure. Preliminary results suggest different depositional histories across the site based on the varying proportion of mammal to fish bone. The bird bone, which is distributed across the site, exhibits a unique distribution of anatomical parts. [13]

**NANCY J. BOWERS.** [6]

**DANIEL L. BOXBERGER.** Western Washington University. *Anthropologists as Predators: Changing Perceptions of Northwest Coast Research.* Native people generally find descriptive ethnography interesting but theory and analysis pointless. While the motives of anthropologists have long been suspect in Native American communities increasingly questions arise over who owns knowledge and what use should be made of it. For many Native Northwest Coast people knowledge is property, knowledge is power, and knowledge is often private. Is knowledge a cultural property? If so, is the dissemination of this knowledge a form of intellectual hegemony? Is there a way to reconcile these differences? [16]

**KIMBERLY LINKOUS BROWN.** 1996 M.A. graduate, Western Washington University. *The Effects of the Alaska Native Claims Settlement Act (ANCSA) in Southeast Alaska: an Examination of "Perceived Profitability vs. Long Term Success."* Results of a study focusing on the economic development of one southeast Alaska ANCSA village corporation suggest a specific cycle of economic development among the village corporations within the region. At the heart of this cycle is the commercial timber resource which dominates the archipelago. Corporate strategies have focused on the rapid harvesting of the region's timber resource in an effort to turn "trees into cash" resulting in substantial shareholder dividends. This strategy of "maximum dividends at the expense of the corporation and the resource" has contributed to a perception of immense corporate profitability and shareholder wealth. This study focuses on the difference between "perceived profitability" and success for the long term. [24]

**MICHAEL S. BURNEY.** [19]

**MICHAEL S. BURNEY, JEFFERY VAN PELT and THOMAS E. BAILOR.** Confederated Tribes of the Umatilla Indian Reservation. *Hanford Nuclear Facility and the Umatilla, Cayuse, and the Wallawalla Tribes: A Decade of Dialogue.* This year marks the end of a decade of dialogue between the Umatilla, Cayuse, and Wallawalla tribes (CTUIR) and the Hanford nuclear facility (Hanford). Hanford, 500 square miles under U.S. government control straddling the Columbia River in southeastern Washington, is aboriginal homeland to American Indian peoples, bands, and tribes, including the CTUIR, Nez Perce, Yakima and Wanapum people. Their ancestors are interred there. Ceded lands, as per the CTUIR Treaty of June 9, 1855 (ratified by Congress March 8, 1859, and reinforced by Presidential Proclamation, April 11, 1859) encompass a portion of Hanford. These past ten years working with Hanford's cultural resource issues are characterized (e.g. the Hanford Cultural Resource Management Plan, June, 1987) and recommendations made emphasizing the resources themselves, and unique tribal cultural sensitivities required of native resource preservation and management. [8]

**KELLY R. BUSH.** (WWU) *Survey Investigations in the Upper Skagit River Valley, British Columbia: Results of Project.* Recognizing a need to improve the evaluation of methodological approaches to archaeological survey in heavily forested areas, this project intended to carry out a judgmental and systematic subsurface (shovel) testing program in the same study blocks. The study area is in the Skagit Valley Recreational Area north of Ross Lake and east of the Skagit River in British Columbia. The systematic portion of the project was not carried out due to weather and time constraints. I compare the results of the judgmental survey to an existing data base for the drawdown and forested areas of the Ross Lake region of the Skagit River valley in Washington. The comparison show that survey with subsurface testing in forested areas is consistent but misses many sites that can be found in the devegetated areas of the same river valley. [20]

**CAROLINE BUTLER.** University of British Columbia. *Imagining Nunavut: Ethnonationalism and Ethnogenesis in the Canadian North.* An Inuit land claim and a complementary adjustment of the political structure of the Canadian North have resulted in the creation of a new territory, Nunavut. The rhetoric implemented by Inuit and non-Inuit political leaders during the negotiation of the NUNAVUT ACT 1993 and the NUNAVUT ACCORD 1993 established this territory as the "Inuit homeland". An examination of Inuit expressions of opposition to the creation of Nunavut in northern newspapers and aboriginal publications suggests, however, that this homeland may be a recent construction, rather than a primordial reality. Nunavut incorporates only 3 of the 6 Inuit regional groups in Canada, and initiates the economic and political alignment of communities who have had limited historical ties. An Inuit identity that maps onto the territorial boundaries of Nunavut has not provided the ideological foundation for the new territory. This Inuit of Nunavut identity is only now emerging as a result of the land claim process and corresponding political developments. Nunavut appears to have been imagined primarily by a young Inuit intelligentsia from the Baffin region whose ethnonational endeavors have engendered a broader ethnogenesis, creating a new Inuit identity. The vision of a relatively small group has had significant ramifications for the political, economic and social conditions of the 17,500 beneficiaries of the Nunavut land claim; this vision appears to have varied from that of other Inuit of the region. The agency of this intelligentsia in Inuit relations with the state has significant implications for all aboriginal peoples engaged in political negotiations. The richest of land claims may not serve its beneficiaries well if it is the invention of a non-representative leadership. [24]

**VIRGINIA L. BUTLER and NANCY J. BOWERS.** Portland State University. *Problems and Prospects for Ancient Salmon DNA Research.* In the Pacific Northwest, archaeological salmonid remains have great potential to inform on issues of prehistoric cultural use, salmonid paleobiology and past environments. One hindrance to using prehistoric salmonid remains, however, has been the gross level of taxonomic identification generally achieved. Species diagnostic elements rarely are found in archaeological contexts. Recent breakthroughs in ancient DNA research using PCR (polymerase chain reaction) suggest a new way to obtain species-level and possibly finer taxonomic information from prehistoric samples. This study attempted to extract DNA from salmon vertebrae from archaeological sites representing multiple ages (modern to 8000 yr) and sedimentary contexts. Salmonid-specific PCR primers were developed to target taxonomically informative regions of mitochondrial (mt) DNA. The regions selected were necessarily short (between 175 and 270 base pairs), since ancient DNA is typically of poor quality. DNA was successfully extracted and amplified from the modern bones but not from any of the ancient samples. Several alternative extraction techniques as well as optimization of PCR reaction conditions using the ancient samples were not successful. To determine whether elements other than vertebrae might retain extractable levels of DNA, additional elements were tested. Skeletal tissues from non-salmonids (e.g., cyprinids, sturgeon) were used for DNA extraction to determine whether ancient DNA quantity varies across major fish groups. [6]

**VIRGINIA BUTLER.** [25]

**SCOTT BYRAM.** University of Oregon. *Weir Panels and Basket Traps: Functional Variation in Split Wood Lattice from the Osprey Site on the Coquille Estuary.* Excavations and surface characterization performed by the University Of Oregon and the Coquille Indian Tribe at a wet site on the Coquille estuary have documented 12 fragments of archaeological split wood lattice, in association with wood stake weirs (fishing structures) dating from 940 BP to 400 BP. Two lattice types have been distinguished based on morphological attributes. Functional variation between these types is considered based on analysis of ethnohistoric accounts of lattice use, experimentation, and other technological analysis. Lattice use is examined within the broader context of fishing site use in estuaries of the southern Northwest Coast. [18]

**NATALIE A. CADORET.** Battelle-Pacific Northwest National Laboratory. *Erosional Processes Along the Eastern Edge of Locke Island.* Erosion-measuring transects were established in November, 1995, along part of the eastern edge of Locke Island periodically monitored to determine the rate of bank recession. Erosion of the bank coincided with periods of high water and was greatest during an atypical early season flood stage in February, 1996. The slumping tended to follow a cyclical pattern with undercutting and bank failure, followed by a period of relative stability as the lower bank was temporarily protected by accumulated talus deposits. Total erosion the following year was severe, measuring a total of 16.5 meters at one transect. Approximately 1.8 acres of land were lost in a twelve month period. Bank recession will continue along the eastern edge of the island as long as the river channel continues to be constricted by the major land slide on the opposite bank. [23]

**NATALIE A. CADORET.** [23]

**CHRISTOPHER M. CASSERINO.** Eastern Washington University. *Quantitative Comparison of Bacterial DNA Extracted from Archaeological and Modern Deer Bone.* DNA obtained from archaeological bone samples can be an important diagnostic tool when attempting to reconstruct lifeways of past

cultures. This research was conducted to show that polymerase chain reaction (PCR) amplifiable DNA could be extracted from archaeological bone samples. An extraction and purification procedure was developed which allowed for more rapid isolation of DNA from bone than has previously been published. The DNA from the archaeological samples was compared to that of DNA extracted from a fresh bone using agarose gel electrophoresis, U.V. spectrophotometry, and PCR. The results showed that bacterial DNA could be extracted in amounts sufficient for a successful PCR assay. Using this method, bacterial infections that may have been present in an individual or in a population could be confirmed with a high degree of certainty. [20]

#### **BRIA CHAKOFSKY-LEWY. [9]**

**JAMES C. CHATTERS.** Applied Paleoscience. *Taking the Long View: Evidence of Salmon Population Dynamics During the Holocene.* In assessing the status of salmon stocks in the Pacific Northwest, we tend to use early nineteenth century values as the long-term historic norm and to see potential fish productivity as virtually static. When geologic, paleontological, and archaeological evidence are used to extend our record of productivity in the Columbia, Fraser, and Sacramento systems, however, the dynamic and resilient character of the salmon resource becomes evident. First, during the late Pleistocene, the entire Fraser and most of the Columbia above the Snake River were foreclosed to salmon by glacial ice. Salmon recolonized those systems by at least 9000 B.C. in the Columbia and 7000 B.C. in the Fraser. Habitat conditions remained poor, however, through the early and middle Holocene in all three systems. Combinations of eroding glacial deposits, aggrading beds, low flows, abbreviated freshets, and warmer waters kept salmon populations at levels closer to those of today than to the early 19th century. A reversal of these conditions between 1700 and 2300 B.C, probably combined with improved oceanic conditions, enabled an explosion in salmon populations. Native peoples in all river systems reorganized their subsistence pursuits around the salmon runs at this time. As human populations rose over the next several millennia, there is evidence in the Sacramento and perhaps also the Columbia River of stress on the salmon resource. This reached its highest levels after 500 A.D. Salmon habitat also fluctuated in recent centuries. In the 18th century, epidemics destroyed native human populations, relaxing predation pressure. At the same time, the cooling of the Little Ice Age may have improved climactic conditions in southern parts of salmon's range. As a consequence of three historic coincidences —European exploration, native American depopulation, and climate induced habitat enhancement —our 19th century baseline is far from the long-term norm. [6]

**JORIE CLARK.** U.S. Forest Service-Winema National Forest. *Archaeological Investigations of a 20th Century Railroad Logging Campsite in Eastern Oregon: A Passport In Time Project.* For the past year and a half, volunteers working with Forest Service archaeologists have been involved in the surface mapping and collection of diagnostic reference materials from a 34 acre National Register eligible railroad logging campsite. The underlying objective of the project was to reconstruct the activities of a large logging operation which was important in the early historic development of this part of eastern Oregon. The site, located within a railroad junction that resembles the spokes of a wheel, hence the name "Hub camp," was home to ~400 men, women and children who lived and worked there in the 1920s. As with many large surface sites, the Hub camp shows evidence of past looting and vandalism but still retains fair integrity. We have categorized items from the site as personal, medicinal, domestic, commercial, industrial, and architectural, thus identifying complex social as well as industrial activities. [20]



**KANDEE CLEARY.** Central Washington University. *Social Impact of Reservation Gaming: A Case Study from Colville Confederated Tribes.* There are many social impacts of reservation gaming. Reservation gaming is a 7.5 billion dollar industry that continues to grow. There have been many unsupported claims regarding the social consequences of reservation gaming, both positive and negative. This proposed research project is based on elementary exploratory interview information collected from members of the Colville Confederated Tribes. The objectives of this research have been to identify those parties who have a vested interest in the social impact of reservation gaming, identification of the relevant issues, identification of the possible social benefits and costs, and the development of a longitudinal study dealing with the social consequences of tribal gaming. [16]

**THOMAS J. CONNOLLY, CHARLES M. HODGES, GUY L. TASA, and BRIAN L. O'NEILL.** Oregon State Museum of Anthropology; University of Oregon. *Cultural Chronology and Environmental History in the Willamette Valley, Oregon.* Of the more than 160 radiocarbon dates from cultural contexts in the middle and upper Willamette Valley, more than 40% derive from just two investigated project localities. One set derives from the middle Long Tom River basin in the upper Willamette Valley where a sedimentological and cultural record spans the last 11,000 (dendrocalibrated) years. A second set from the Mill Creek area in the central portion of the valley extends back ca. 6000 years. In both areas there are matched clustering of dates, and periods with few or no dates. The periodicity in these two data sets suggests that 1) there may be important environmental/sedimentological patterns occurring on a valley-wide scale that are as yet poorly understood, and 2) understanding these patterns will be critical to our reconstructing the valley's cultural record. [21]

**STAN COPP.** Langara College, B.C. *A Pre-Mazama Plateau Microblade Tradition Site, Upper Similkameen Valley, British Columbia.* Excavations of the Stirling Creek Bridge site (DiRa-09) in the Similkameen Valley of British Columbia revealed late and early period components. Both occupations exhibit Plateau Microblade Tradition artifacts of cryptocrystalline silicates and quartz crystal. A total of over 2,000 microblades and fragments were recovered from 24 cubic metres of deposit. Implications of these findings for Plateau prehistory are discussed. [18]

**DALE R. CROES.** South Puget Sound Community College; Washington State University. *The Hoko River Wet Site: A Joint Tribe/University Research Effort.* The Hoko River Archaeological Wet site is a joint Makah Tribal Nation/Washington State University project fully involving both groups in the overall research developments and public presentations. The joint team was made up of partners with very different end objectives: WSU staff were pursuing western scientific objectives and the Makah Tribe was pursuing the preservation of 3,000 years of their cultural heritage. One approach was mostly analytical and the other cultural, but together we truly are doing Anthropological Archaeology and Applied Anthropological/Archaeology in an effective sense. [19]

**DALE R. CROES.** [20]

**INGE DAHM.** Port Coquitlam, B.C. *Manufacturing Metaphors: the Production of Soapstone Ornaments in the Prehistoric Gulf Islands.* Labrets, earspools and composite ornaments (still known as whatsits) of soapstone and other materials have been excavated from sixteen sites in the southern Gulf of Georgia area. Excavations at the Pender Canal sites, DeRt 1 and DeRt 2, from 1984 to 1986 provide an unparalleled collection of these artifacts, more than doubling the sample previously known from archaeo-

logical context in this area. In addition to finished pieces, the Pender collection contains raw materials, partly completed specimens, and the tools used in the manufacturing process. The research permits us to follow these unique items from their original raw material to their final archaeological context. [18]

**RICHARD D. DAUGHERTY, PhD.** Emeritus, Washington State University, Western Heritage. *The Public, The Press, Archaeology, and Legislation..* The excavations at Marmes Rockshelter had a significant impact on the public awareness of archaeology in Washington State. The direct involvement of our state's congressional leaders and even the President of the United States in the project, and the media blitz that accompanied each new discovery, served to raise the importance of archaeology in public agencies, and make the funding of subsequent projects easier. The excavations and discoveries also marked the beginning of a new awareness of the importance of archaeological research by Northwest Indian Tribes. The history of these aspects of the project is discussed. [5]

**ANN LOCKE DAVIDSON.** University of Pittsburgh, Learning Research and Development Center. *Towards Transcending Classroom Borders: Youths' Perspectives.* Ann Locke Davidson will present a paper analyzing students' perspectives on interactional, pedagogical and curricular strategies teachers use to address borders between themselves and students. "Towards Transcending Classroom Borders: Youths' Perspectives" draws on interviews with 55 diverse high school students who describe a range of teacher actions and behaviors that they perceive as affecting their ability to engage with classroom activities and materials. The paper is informed by the theoretical perspective that individuals from different social groups often develop vested interests in being different from one another in response to their relative positions in the social order or in order to maximize their economic and political security (Barth, 1969; McDermott & Gospidonoff, 1979). At the classroom level, politicized differences create borders that impede successful interaction. Davidson illustrates that students facing borders focus foremost on teachers' interactional strategies, critique traditional approaches to classroom pedagogy, and are appreciative of curriculum they perceive as relevant to their social worlds. Davidson draws on this data to both support and raise questions about current prominent, socially critical approaches to multicultural pedagogy. She argues for a broadened, "border transformational" approach that blends critical approaches to pedagogy and curriculum with more personalized, relational strategies. [11]

**LOREN G. DAVIS.** University of Alberta. *Archaeological and Geoarchaeological Investigations in the Lower Salmon River Canyon of West-Central Idaho: An Introduction to Research.* A unique cooperative arrangement between the University of Alberta, Bureau of Land Management, and the University of Idaho has been developed to investigate a wide range of archaeological and geoarchaeological aspects of prehistoric human occupation along the Lower Salmon River. Components of this research will address several key issues of canyon prehistory including: (1) Late Quaternary paleoenvironmental conditions and change; (2) A predictive model of archaeological site location; (3) Expansion upon and clarification of the local culture historical model; and (4) The record of human-environmental interaction in a dynamic paleohydrological context. This broad perspective will be provided through the work of many individuals in several stages. Archaeological and geoarchaeological investigations are scheduled for the entirety of the 1997 summer fieldseason and will involve an eight week archaeological fieldshool organized by the University of Idaho. In addition to this project summary, the results of 1996 fieldwork and preliminary viewpoints on the construction of proxy paleoclimate records for the Lower Salmon River Canyon are presented here as an introduction to research. [Poster]

**TIMOTHY V. DELANEY.** Portland State University. *The Spatial Distribution of Lithic Debitage in One Northwest Coast Plank House as an Indicator of Social Status Variability.* The Meier site (35CO5) contains a protohistoric plank house in the Portland, Oregon metro area. The structure was 30m by 14m and was excavated between 1987 and 1991. Ongoing research has focused on whether a status gradient along the house's long axis is reflected in the distribution of chipped stone, ground stone and stone tools. The present paper focuses on the distribution of lithic waste along that gradient. Preliminary analysis indicates that the spatial distribution of lithic debitage may be indicative of differences in social status along the long axis of the Meier house. [20]

**DAVID DELYRIA.** [13]

**TSEHAY DEMOWEZ and BRIA CHAKOFFSKY-LEWY.** Harborview Medical Center. *Beyond Interpretation: The Role of Interpreter Cultural Mediators.* We will discuss the model of Interpreter Cultural Mediators as developed and used in our program. ICMs provide case management, continuity of interpretation and advocacy for their patients in five of the refugee communities served at Harborview. [9]

**ALAN D. DEPEW.** Washington State University. *Archaeology of the Wood River System, Southwestern Alaska.* This paper presents preliminary results of an archaeological investigation of two sites (49DIL153 and 49DIL086) in Southwestern Alaska. The recovered artifact assemblages and radiocarbon dates suggest use of the sites between 3590 BP and 150 BP. Affinities with Arctic Small Tool Tradition and Norton Tradition manifestations on the Alaska Peninsula and the southwestern coast of Alaska are discussed. [7]

**KENNETH R. DICKERSON.** University of Idaho. *Organization and Technology of an Upland Lithic Industry on the Joseph Plains, Idaho.* During the 1996 field season, BLM Cultural Resources personnel conducted intensive surface collection and mapping at ten lithic procurement/workshop sites located in the High Breaks Ridge area of the Joseph Plains. Preliminary laboratory analysis of the data generated during this fieldwork suggests that the fine grained, basaltic-andesite procured at these sites was a locally important material for the manufacture of expedient, as well as formal lithic implements. The presence of lithic material from High Breaks Ridge at a nearby upland campsite (10-IH-1286) has been verified through macroscopic as well as geochemical analytical techniques. The association of camp/activity areas to the localized basalt procurement sites at High Breaks Ridge provides the unusual opportunity to trace an entire technological continuum, from raw lithic material procurement to the final discard of worn, broken, and expedient tools. [17]

**E.B EISELEIN.** A&A Research. *Sweating to the Oldies: The Urban Inter-Tribal Sweat Lodge.* The sweat lodge is found among many American Indian cultures. In the off-reservation setting, the sweat lodge serves to reinforce Indian identity, but in these inter-tribal settings it must adapt to serve many cultural heritages. In this context, ceremonies may become a blend of several cultures. The songs, for example, may be sung in Lakota, Anishinabe, Pikuni, and English. This paper will discuss the inter-tribal sweat lodge in the off-reservation setting. [24]

**DOUGLAS EITEMILLER.** [20]

**LISA L. ELY, YEHOUDA ENZEL, VICTOR R. BAKER and VISHWAS S. KALE.** Central Washington University; Hebrew University, Jerusalem; University of Arizona; University of Poona. *Geomorphic Records of Holocene Climactic Variability.* One of the significant outcomes of climate change research is the increased understanding of climactic variability and extreme events, because an increase in climactic variance is often more difficult for human societies to adjust to than a change in mean conditions. Here we present examples of two different types of geomorphic records that preserve evidence of climactic variability. Paleoflood deposits in the southwestern U.S. and monsoonal India show that extreme floods tend to cluster into specific periods that are tied to climactic variations. In the southwestern U.S., the largest floods in the last 5000 years have been most frequent during cool, wet climate episodes. In contrast, paleoflood studies in regions affected by tropical storms, including monsoonal India, reveal that large floods have been especially frequent during the 20th century. The widespread nature of this pattern suggests a climactic cause. Paleohydrological studies of lake sediments provide a high-resolution record of regional climactic variability. The highest Holocene lake stand at Lunkaransar, in northwestern India, lasted from ~6300 to 4800 <sup>14</sup>C-yr B.P. Analysis of the stratigraphy, mineralogy, and geochemistry of the sediments revealed that the environmental changes accompanying the rise and fall of this high stand were very abrupt, probably occurring within only a few decades. Many rapid fluctuations in lake levels occurred throughout the 9600-year record, even during periods of predominantly high or low lake stands. [6]

**MARYANN EMORY.** [25]

**YEHOUDA ENZEL.** [6]

**ANTHONY FARQUE.** [21]

**JAMES ANTHONY FLANAGAN.** University of Montana. *Ecotourism, Sustainable Development, and Developing Nations.* In the past decade tourism has become the largest industry in the world. Developing nations are turning toward tourism programs as a means to increase and extend current forms of foreign exchange. By addressing negative aspects of mass tourism, developing nations are looking for a sustainable form of tourism. Nature tourism or ecotourism promises to protect their fragile resources while providing necessary economic resources. However, these promises are not always realized. Negative aspects of ecotourism can be identified by examining how historical, environmental, and political economic factors articulate in a specific context. Belize, Central America, provides an excellent case study to discuss the political, economic, and environmental challenges confronted by developing nations. In this presentation, I will discuss the precedence set by Belize's colonial past, how it has effected the current political economic condition, and discuss how the current ecotourism strategy articulates within the political economic and environmental policies. [4]

**JAMES ANTHONY FLANAGAN.** University of Montana. *The Political Economy of Health in Developing Nations.* Debates over health care reform bring to the fore the connections between politics, economy, and health. Health care in developing nations, instituted by European colonialism, continue to display systems dictated by Western ideology. Current political and economic dependency on European nations sustains health care systems geared toward elite and urban populations, neglecting rural populations and the underclass. Western health care systems, rooted in capitalism and a biomedical paradigm,

also ignore 'nonmedical' aspects of health crises. However, it is important to understand the historical and modern context of health issues in order to provide successful health care. By using a critical medical perspective, anthropologists can examine the variety of factors involved, attacking the crisis at the source. In this presentation, the historical precedence and continuing European hegemony will be discussed, providing insight to the connections between political economy and health thus improving health care systems in developing countries. [9]

**HILLARY FOUTS.** Central Washington University. *Field Observations of Wild and Captive Sanctuary Living Chimpanzees.* Observations took place during an independent study in Tanzania, Kenya, an Uganda. The observations specifically address and illustrate the impact of human observers across five different contexts, all of which vary in group size, environment, available space, and experience with humans. [14]

**ADELINE FREDIN.** Colville Confederated Tribes. *Perspectives from the Colville Tribes. No abstract.* [5]

**ARLINE F. FULLERTON.** South Puget Sound Community College. *The Effects on Society Due to the Decline of Appropriate Touching: A Cultural Perspective.* Food, water, and air are essential ingredients for all mammals, including humans, to sustain life. Just as crucial for survival, but often discounted by humans, is a constant supply of touching. Anthropologists have witnessed and recorded the effects of touching such as grooming, horse play, and holding hands, or the lack of same among many species of apes. As a retired hair dresser and mother of many children, I too, have witnessed the effects of touching, as well as the lack there of, on my customers, children and friends. In fact, in recent years, our society has become so preoccupied with issues like body cleanliness, and protecting personal space, that we are slowly separating ourselves from the life-sustaining benefits of touching one another, and yet child molestation, rape, and other forms of physical attack are becoming more common place everyday. [14]

**TRICIA GABANY-GUERRERO.** Central Washington University. *The Heart of the Oak: Tarascan Symbolism and Medical Practice during the Early Colonial Period.* In this paper I will explore the early colonial period uses of botanical substances by Tarascan curers as documented in texts. These practices are then discussed in the context of Tarascan symbolism and a larger project to abstract an ideology of the Tarascan body during this period. [9]

**JERRY R. GALM.** Poster

**RICHARD GARVIN.** Okanagan University College. *Grave Reflections: The Kincolith Cemetery Project.* This paper presents the preliminary results of a conservation project at a little known, historic cemetery located along the Nass River, 80km north of Prince Rupert B.C. Preliminary results have revealed: 1) There are probably close to 1,000 individuals buried at the cemetery, a much larger number than expected. Many of those interred at the Kincolith Cemetery were high-ranking Nisga'a chiefs and early Anglican missionaries. 2) Many of the headstones are valuable and vibrant examples of Nisga'a art, being clan crest figures carved into large, marble monuments. 3) This is the location of the third Hudson's Bay Company fort on the west coast, Fort Nass/Simpson (1831-1834). 4) There is a Japanese war memorial located at the cemetery which dates to June 1918. [13]

**DIANNA M. GEORGINA.** Washington State University. *Preliminary Analysis of a Sample of the Faunal Remains From Lime Hills Cave One (LIM 002), Alaska.* A sample of the faunal remains recovered from the summer 1995 excavation of Lime Hills Cave One (LIM 002), near Lime, Alaska, were analyzed. Radiocarbon dates from an earlier (1993) excavation yielded dates between 8,480<sup>±</sup>190 (WSU 4505) and 27,950<sup>±</sup>560 (Beta 67670). Human use of the cave apparently began around 9,000 years ago. Four units were analyzed, and dental remains of small mammals were identified from each. Large mammal remains have not yet been analyzed. Small mammal remains identified include collared lemming, *Dicrostonyx torquatus*, brown lemming, *Lemmus sibiricus*, and tundra vole, *Microtus oeconomus*. Predator species represented included arctic fox (*Alopex lagopus*), red fox (*Vulpes vulpes*), ermine (*Mustela erminea*), and pine marten (*Martes americana*). Avian species, though present, have not yet been identified. Other identified species include *Microtus xanthognathus*, *Microtus gregalis*, *Spermophilus parryi*, *Castor canadensis*, *Clethrionomys rutilus*, *Lepus* sp., *Marmota caligata*, and *Sorex* sp. [7]

**RETA GILBERT.** Eastern Washington University. *Blackfeet Stereotypes.* The earliest records we have of the Blackfeet Indians, whose nation now straddles the US-Canada border, are paintings by two artists: George Catlin and Karl Bodmer. During the summer of 1832, George Catlin "sat on the breech of a twelve-pound cannon intended to defend the fort" and painted both Crow and Blackfeet visitors to Fort Union. He was the first artist to gain the trust of the Blackfeet after Merriweather Lewis shot and killed 2 Blackfeet on his way back from the Pacific in 1806. The following summer, 1833, Karl Bodmer accompanied Prince Maximilian of Wied in Austria to Fort McKenzie where he painted at least 16 portraits of the leaders of the three Blackfeet tribes. Both men saw the Blackfeet through European eyes. Some of the stereotypes are obvious; some less so. This study concludes that we should use these primary sources with caution, examining both the views of the painter and his background before accepting the images as historical fact. [Poster]

**ANNE GOODFELLOW.** University of British Columbia, B.C. *Language and Culture Contact on the Northwest Coast.* This paper examines the contemporary form and current contexts of use of Kwak'wala, a member of the northern branch of the Wakashan language family spoken in British Columbia, Canada, on the northern part of Vancouver Island and the adjacent mainland. Looking at the social history of culture contact in the region, I will focus on the following questions: What are the contexts of speech events in Kwak'wala? Why has the language continued or come to be used in those situations, and not others? Are there changes in the vocabulary, phonology, and grammatical structures that can be linked clearly to the influence of English? If so, what are those changes? Can they be compared with changes undergone by other languages after prolonged contact with colonial languages? How have cultural factors and social history influenced the language? [16]

**STAN GOUGH, FRED R. NIALS, and JERRY R. GALM.** Eastern Washington University; Desert Research Institute; Eastern Washington University. *Comparison of Alluvial Chronologies: Northern Great Basin and Columbia Basin.* Numerous similarities exist in late Pleistocene and Holocene geomorphic and stratigraphic sequences from small drainage basins in the northern Great Basin and Columbia Basin. These include: (1) typically coarse-grained late Pleistocene and early Holocene alluvium indicative of relatively high energy, perennial stream flow conditions; (2) a pre-Mazama paleosol; (3) widespread erosion and gully cutting immediately prior to the deposition of Mazama ash; and, (4) major gully formation throughout much of the American west approximately 100 years ago. The significance of local

mid- to late-Holocene episodes of erosion, deposition, and soil formation in both the northern Great Basin and the Columbia Basin, as regional markers may be demonstrated as additional synthesis of existing and new data become available. Similarities in the timing and nature of geomorphic processes have implications for the development of models of climate change, floral, and faunal response to such change, and human land-use practices. [Poster]

**DENNIS GRIFFIN.** University of Oregon. *Community Supported Archaeology in the Arctic: A Reconstruction of the History of Nash Harbor Village, Nunivak Island, Alaska.* Nunivak Island, located along the west coast of Alaska, is believed to be one of the last places in North America to be directly impacted by Euroamerican contact. Due to its relative isolation, Cupiit residents had little contact with Euroamericans until the arrival of the first teacher in 1923. Local lifeways continued with little impact until the arrival of the first missionary in 1937 sparking drastic changes in settlement, subsistence and spiritual practices. The village of Mekoryuk (the only village on Nunivak) is now actively involved in preserving their cultural heritage. As part of this process a community supported archaeology project has offered close cooperation between residents and archaeologists. Through archaeological excavation, oral history and a review of historic photographs and ethnohistoric documents, a reconstruction of the history of one village is attempted. [19]

**CARL E. GUSTAFSON.** Washington State University. *Marmes Rockshelter: 10,000 Years of Faunal Stability.* Geological and palynological data suggest that climate in southeastern Washington has varied significantly during Holocene time. However, faunal taxa have remained remarkably constant throughout the last 10,000 years. With the exception of extinct bison at the Lind Coulee Site and Arctic fox and pine marten at Marmes Rockshelter, all taxa identified are extant in the region today, or were extirpated locally by historic time. An analogy using modern vegetation (habitat types) illustrates how present edaphic and topographic conditions in the lower Palouse River region might explain this apparent anomaly. [10]

**CARL E. GUSTAFSON.** [3]

**DAVID HALL.** Simon Fraser University. *Preliminary Results of the Analysis of the Lithic Assemblage from the Tsini Tsini Site (FcSm 11), Talchako River Valley, B.C.* Excavations conducted during the 1994 and 1995 field seasons at the Tsini Tsini site have revealed the presence in the Bella Coola region of an early technology organized around the production of andesite bifaces. An analysis of the assemblage from the site, which includes microblades, has revealed evidence suggestive of its technological similarity to the early inter-tidal lithic assemblages on the Central Coast of B.C. and the early component at Namu. A small late prehistoric component is also present at the site. The site is situated on a raised glaciomarine delta associated with the late Pleistocene/early Holocene marine transgression which is known to have taken place within the Bella Coola Valley. [18]

**DOUGLAS HALLETT.** [6]

**HEATHER HARRIS.** University of Northern British Columbia. *Late Pleistocene Environments from Northern Northwest Coast Oral History.* The peoples of the northern Northwest Coast area (Ts'imsian, Nisga'a, Gitksan, Haida, Tlingit, Tahltan and others) have an oral historical record which reaches back to the late Pleistocene. The stories describe the early peopling of the area after deglaciation in terms which Westerners can recognize as historical. The elders of this area can tell the stories chronologically and the

ones which they say are very early clearly describe postglacial environments and events. The stories describe a treeless land which was changing rapidly. They describe sea levels much lower than present and aerially exposed land where none is now. They describe the rapid rise of sea level between 10,500 B.P. and 9,500 B.P. and the effects of isostatic rebound in the inland areas. The stories describe proglacial lakes, reversal of river drainages, the breaking of ice dams and other events and conditions which are likely to have prevailed before 9,000 B.P. [22]

**GLENN D. HARTMANN.** [Poster]

**TAMSIN HEKALA.** *Peaceweavers, Whores, and Hedgewives: Marriage by any Other Name.* A marriage is routinely defined in contrast to the European model. So fundamental is the concept of marriage as a monogamous long term relationship for the procreation of children, it is the starting point for any other marriage model's description. Such comparisons assume European marriage forms are static. Yet is the current pattern of marriage the one that existed a thousand years ago? This paper reconsiders indigenous marriage configuration in Northern Europe based on legal descriptions of secular Medieval law codes. It reconsiders the ideal paradigm of marriage and offers a fresh view of marriage's function in Medieval society. [14]

**LESLIE HICKERSON.** USDA-Forest Service. *"Passport in Time" Delivers Positive Results.* Since 1991 the Deschutes National Forest has participated in the National Forest Service volunteer program, Passport in Time. As a Forest, we have sponsored the lay and professional public in undertaking such projects as archaeological surveying and test excavation projects, artifact cataloguing and display development, and rock art recording and monitoring. This paper discusses successful Passport in Time projects on the Deschutes and their multiple values in outreach, education, interpretation, and compliance activities. Our success is measured by feedback from participants, partners, and managers. Projects previously thought to be prohibitively expensive and time-consuming can be completed within timelines and budgets through the help of outside volunteers and without compromising professional standards. [8]

**BRENT A. HICKS.** BOAS, Inc and Colville Confederated Tribes. *Palouse Canyon Archaeological Project Highlights.* The greater contributions to our understanding of Plateau prehistory derived from the Palouse Canyon Archaeological Project include: the relationship between surface features and subsurface site types; the practicality and success of changing the data recovery focus from lithic to perishable materials; some points on storage and storage sites; the usefulness of immunological analysis, roofall deposition rates, and other analytical techniques and future research directions. [5]

**CHARLES M. HODGES.** [21]

**LUCILE A. HOUSLEY.** B.L.M., Lakeview R.A. Botanist. *Cultural Plants of the Inter-Mountain West.* Awareness of culturally significant plants has become more important for Federal land management, especially in the Interior Columbia Basin Ecosystem Management Project plannings. Placing plants in their ecosystems or plant communities allows decision making without revealing confidential information and helps tribes promote the importance of these plants to their cultural well-being. This ethnobotanical display has helped promote dialog among public land managers, the general public of all ages, and native peoples. [Poster]



**GEORDIE D. HOWE.** Arcas Consulting Archeologists Ltd. *Along the Squamish-Cheakamus Divide: Recent Investigations into Prehistoric Alpine Exploitation within Traditional Squamish Territory.* Results of recent survey and previous archaeological research in alpine settings near Squamish, British Columbia, by Arcas Consulting Archaeologists are presented. The work, undertaken for the Squamish Nation has identified several sites yielding a variety of lithic raw materials, including artifacts of Garibaldi obsidian. Analysis of these materials indicates that alpine locations were used as both raw material sources and for hunting and butchering activities, with the most probable prey species being mountain goat and marmots. One major implication of the research is that precontact utilization of alpine settings in southwest British Columbia is likely to be more intensive and extensive than previously believed. [18]

**DOUGLAS HUDSON.** University College of the Fraser Valley. *Grounding Culture: Contemporary Research on Interior Salish Culture.* Contemporary ethnographic research on Interior Salish culture increasingly has to take into account the information and mapping requirements of government ministries in British Columbia, especially the Ministry of Forests. This is a consequence of several court cases in the 1990s which highlighted the need to have aboriginal interests included in resource-use planning. This has meant an expanded role for archaeological studies, under provisions of heritage legislation, and a structuring of indigenous land use research under Traditional Use Study guidelines issued by the provincial government. Neither of these can fully explain indigenous engagements on and with the land. This presentation describes some aspects of such research amongst Interior Salish groups (with special emphasis on the lower Lillooet and Similkameen-Okanagan), the problems inherent in research which has mapping of places on the land as a goal, and the critical role of oral traditions and narratives in providing a broader description of the land and its meanings. [19]

**DAVID R. HUELSBECK and IAN RITCHIE.** Pacific Lutheran University; US Forest Service. *Alpine Resources in the Central Cascades: Casual Supplement or Critical Contributor?* Archaeological research during the last decade has provided clear evidence of prehistoric utilization of alpine environments in the Washington Cascade Mountains. A PLU - USFS collaborative project demonstrated that the Alpine Lakes Wilderness Area follows this pattern. In six weeks of field work, we found a total of 21 locations with prehistoric material on the surface. The area was used and appears to have been used for the kinds of activities described in the ethnohistoric literature: hunting, gathering plant foods, traveling, etc. Considering the environmental context (rugged topography and scarce lithic resources), the evidence suggests much more than casual use of the alpine environment. It seems likely to us that the upland lakes were relied on as important locations in the regular annual round of the peoples of the area. [20]

**MANFRED E. W. JAEHNIG.** [23]

**DENNIS L. JENKINS.** Oregon State Museum of Anthropology. *Early to Middle Holocene (12,000 to 5,000 B.P.) Cultural Transitions in the Northern Great Basin of Oregon: Was Bedwell (1970) Right?* This paper addresses some of the key issues raised by Bedwell's proposed reconstruction of the transitional period between the Early and Middle Holocene. I will address to a small degree the settlement-subsistence issue of the Western Pluvial Lakes Tradition, Proposed by Bedwell (1970), by reviewing data recently acquired from sites within the region which date prior to 8,000 RCYBP. Employing the Fort Rock Basin Prehistory Project data base, I will then discuss the 8,000 to 7,000 RCYBP period of transition proposed by Bedwell, comparing cultural assemblages and paleoclimatic/environmental data from

this time period with those of the preceding Early Holocene and the following later Middle Holocene periods. I will conclude with some observations about the most likely course of cultural events during these highly dynamic periods of culture history in the Northern Great Basin. [21]

**MARY LEE JENSVOLD AND CRICKETTE SANZ.** Central Washington University. *Chimpanzees' Reaction to Naive Versus Educated Visitors.* The Chimpanzee and Human Communication Institute offers one-hour educational workshops in which the public can visit the institute and the five chimpanzees who reside there. The participants receive a presentation in the classroom on chimpanzee culture, a video of Project Washoe's history, and a guided observation of the chimpanzees in the indoor exercise rooms and outdoor area. Visitors have always been trained in chimpanzee behaviors before the guided observation. This research project investigated whether the visitors' knowledge of chimpanzee behaviors affected the chimpanzees' behavior. Sixty hours of focal animal duration data were collected over a six week period. Data sessions were twenty minutes and took place in three different conditions: while the chimpanzees were being observed by an educated group of visitors, while the chimpanzees were being observed by a naive group of visitors, and during a control condition in which no visitors were observing the chimpanzees. The educated visitors received training in chimpanzee behaviors and etiquette before the guided observation. The naive group did not receive this training until after the observation. The test of heterogeneity revealed that the chimpanzees' behavior differed significantly between the three conditions,  $p < .001$ . Chi-square tests revealed that each chimpanzee responded to conditions differently,  $p < .0001$ . Washoe, Tatu, and Dar were more territorial toward the naive group. Whereas Loulis was more territorial toward the educated group. Moja displayed very few territorial behaviors. [1]

**MARY LEE A. JENSVOLD.** Central Washington University. *Cross-Fostered Chimpanzees' Responses to Varying Types of Questions.* Conversations between two speakers or signers depend on the verbal and non-verbal behavior of the conversational partners as they take alternate conversational turns. As infants Washoe, Moja, Tatu, and Dar were cross-fostered in a human environment and immersed in American Sign Language. As adults in this experiment, these chimpanzees initiated conversations with a human familiar. The human interlocutor responded with one of four conditions of rejoinders that varied systematically in its relationship to the previous turn of the chimpanzee. Experimenters transcribed videotapes of these signed interactions and categorized the responses. Each trial was a succession of three questions. The chimpanzees were equally responsive to each question in the trial similar to older children. When the interlocutor asked a relevant On Topic question, the chimpanzees responded with many incorporations and expansions. These responses are indicators of topic maintenance. When the interlocutor asked a General question, the chimpanzees frequently expanded across turns showing a persistence in their original topic and giving the interlocutor more information. When the interlocutor refused to comply, Moja and Tatu responded slightly more often than Washoe and Dar. When Moja and Tatu did respond they often expanded across turns which showed persistence in their original topic. When the interlocutor asked a Disruptive question, the chimpanzees often failed to respond and when they did respond they used few incorporations and expansions. The chimpanzees' responses were contingent and appropriate to the interlocutor's rejoinders which are essential ingredients for a conversation. The chimpanzees provided the interlocutor with more information, maintained the interaction and the topic when it was appropriate. The chimpanzees showed they are skilled and active conversational partners. [1]

**GRETCHEN A. KAEHLER.** Portland State University. *The Use of Glass Trade Bead Distribution in Site Analysis.* Previous analysis of glass trade beads recovered from prehistoric and historic sites have

primarily focused on the use of these historic artifacts as temporal markers. While glass trade beads are applicable to the question of chronology within sites and the region as a whole, might they be used to answer other research questions as well? This poster presentation shows how these artifacts might be used to delineate between prehistoric and historic stratigraphies, what analysis of their distribution can tell us about a site, and their use in tightening chronologies within different parts of a single site. This presentation will also focus on bead deposition and taphonomy, in addressing whether these were items of value or of little consequence. The information presented will focus on 45CL1, the Cathlapotle site in Ridgefield, Washington and on the beads recovered from that site between 1993 and 1996. [Poster]

VISHWAS S. KALE. [6]

**KATHLEEN KIEFER.** Grant County Public Utility District. *Implementing Grant County P.U.D. Agreement to Perpetuate Wanapum Indian Culture.* The Grant County P.U.D. entered into an agreement with the Wanapum Band of Indians in 1957 that would allow them to remain living at Priest Rapids where the P.U.D. was constructing a dam. The Wanapum have lived at the damsite for the last thirty-nine years. In those years the Grant County P.U.D. and Wanapum Indians have forged a relationship based on mutual respect and understanding. Over the years, children and grandchildren of the Wanapum elder who helped craft the agreement continue to work with the P.U.D. as employees and neighbors. The cultural resource program at Grant County P.U.D. has provided opportunities for both Wanapum individuals and other employees who work with them. [19]

**J. SCOTT KING.** Historical Research Associates, Inc. *An Evolutionary Approach to Measuring Stylistic Variability in Projectile Points: An Example from the Southwestern Washington Cascades.* Though many artifacts from Pacific Northwest archaeological assemblages exhibit stylistic traits, only projectile points occur in sufficient numbers for statistically relevant analysis of patterns of stylistic variability. Unfortunately, most point typologies employed in archaeological research equate style with morphology. This simplification conflates stylistic, functional, and technological variability, making it difficult to estimate error. Darwinian evolutionary theory offers a promising theoretical framework for defining sources of stylistic variability in projectile points. A dimensional stylistic classification of projectile points from three southwestern Washington Cascades archaeological sites is forwarded. The resulting classes are used to seriate archaeological components and identify regional chronological relationships. [17]

**J. SCOTT KING, DENNIS E. LEWARCH, and PATRICK T. MCCUTCHEON.** Historical Research Associates, Inc.; Larson Anthropological/ Archaeological Services; University of Washington. *Measuring Variability in Lithic Artifact Assemblages: A Historical Perspective.* Changes in the analytic methods employed by archaeologists to explain variability in lithic artifacts generally reflect changes in the theoretical structure of the discipline as a whole. The descriptive approaches of the early twentieth century led to a discipline-wide focus on chronology. By the 1960s, the focus had shifted to the development of anthropological models of function, culture reconstruction, and an attendant proliferation of analytic techniques. The last twenty years or so have seen the development of theoretical and interdisciplinary approaches to lithic analysis, arising in part out of the need for scientific explanation of the archaeological record, and in part as a result of unprecedented access to analytic tools from the material sciences and other fields. [12]

**LAURA F. KLEIN.** Pacific Lutheran U. *Emerging from the Haze: Engendering the Northwest Coast.* The popular images of the Northwest Coast fifty years ago were male figures: fishermen, potlatch givers, totem carvers, and warriors. A careful reading of the descriptions written by anthropologists, however, would find women as shamans, potlatch hosts, traders, and craftswomen. The appearance of these women in the data was rarely reflected in the scholarly analysis nor popular presentations. In more recent years these women have emerged as fully recognized players in society. This paper reviews the growth of awareness of gender and women's societal participation on the coast and discusses the importance of this orientation to anthropological gender studies. [16]

**TIMOTHY A. KOHLER.** Washington State University. *Beyond GIS: Swarm-based Modeling of Prehistoric Settlement Systems in Southwestern North America.* Over the last decade, learning how to successfully and productively incorporate Geographic Information Systems into research has been a key challenge to archaeological method and practice. During the coming decade a critical new challenge will be to move beyond the static worlds provided by GIS data planes to the study of how agents make decisions on the landscapes provided by GIS. That is, we will be moving from GIS as an aid to statistical research on past populations to GIS-or something like them-as an aid to dynamic modeling of any population. To explore the strengths and promise of these new approaches we present one simulation of Pueblo II-III settlement systems in Southwest Colorado using the agent-based modeling system Swarm. [26]

**ROBERT KOPPERL, KRISTINE BOVY, VIRGINIA BUTLER, LAURA PHILLIPS, and NANCY STENHOLM.** University of Washington; University of Washington; Portland State University; Burke Museum; Botana Labs. *Vashon Island Archaeological Project: Fauna and Flora.* At the Burton Acres Shell Midden, the fauna and flora changed at the time of Native American/Euro-American contact. The majority of the bones found at the site were fish. Herring is the most abundant taxon in the upper three layers. A greater diversity of fish taxon are found in the lower layers. Bird and mammal bone are distributed throughout. Shellfish are found in every layer, although they are more crushed in the upper layers. Analysis of wood charcoal indicates that conifer is more abundant in the upper layers, and hardwood is more abundant in the lower layers. [25]

**KATHRYN KRAMER.** Washington State University. *Warfare in the Northern Southwest: The Skeletal Evidence.* For the past century archaeologists have debated the presence of warfare in the prehistoric Southwest. The evidence for warfare is dependent upon examining the architecture and the geographic location of sites. Supporting data includes artifacts, burned sites, no-man's lands, and skeletal remains. My research reviews the important role that skeletal evidence plays in investigating Anasazi warfare during the Pueblo II and III periods (AD 1000-AD 1300). Data suggests at least five different patterns in the observed archaeological record which, when viewed with other evidence, supports the claim for warfare in the prehistoric Southwest. [7]

**STEVE KRAMER, ANN BENNETT-ROGERS, and ANTHONY FARQUE.** Oregon State University; Oregon State University; Willamette National Forest, Sweet Home Ranger District. *Hidden Sites-Found Sites: Implications for Cultural Resource Surveys in the Forested West..* The Legal Compliance mandates regarding historic preservation have forced a recognition of the importance of significant aspects of our national heritage. Location and protection of significant archaeological sites from forested survey areas do not lend themselves to easy site identification due to poor ground visibility. Site and Survey data from the Coast Range of Oregon and the west slope of the Cascades are used to identify

possible historic and prehistoric site locations, Surveys performed at the Oregon State University Research Forests (OSURF) in 1996 and in the Willamette National Forest (WNF) since 1989, were designed to locate and record site information. This data may be useful in designing future surveys in heavily forested areas. Additionally, this information may assist land management planners in avoiding potential site locations and mitigating resource conflicts during ground-disturbing activities. [21]

**ROBERTA KREMER.** Exec. Dir. of the Vancouver Holocaust Education Centre, Vancouver B.C. *Students as Catalysts For Change in the Repatriation Issue: The experience of the Aboriginal Cultural Stewardship Program.* First Nations students from across British Columbia have bridged the gap between communities and museums and have acted as intermediaries for the return of cultural property - especially burial remains. This was an unanticipated result of the training program in cultural resource management. [8]

**ROBERT KUHLEN.** Central Washington University. *Adaptation and Change in an Upper Yakima Basin Agricultural Landscape.* The Kittitas Valley forms the heart of the upper Yakima River Basin in Washington. Frontier settlement during the late 1860's engaged livestock grazing on native grasses. Early specialization on dairy cattle for butter and cheese was a classic von Thünen strategy of servicing the emerging urban markets of Seattle and Tacoma, western transCascadian locations with their own fluid milk sheds. Irrigation projects after the turn of the century greatly enhanced agricultural opportunities, and farmers turned to growing crops such as wheat, sugar beets, potatoes, and peas, as well as orchard fruit. Transportation linkages afforded by railroads, and marketing foundations in the form of processing plants have combined with the force of intervening opportunities elsewhere to guide farming decisions. While a great diversity of crops may be grown in the valley, there is an amazing degree of specialization. Sweet corn is a major cash crop, and is supported by a freezing facility in Ellensburg that is one of the largest in the country. Commercial potato output now focuses on chipping varieties. Timothy hay production for shipment to overseas markets most marks the Kittitas Valley as a distinctive agricultural region. Advantages of timothy over other hay types was realized in post-World War II sales to racetracks. Since the early 1970s, Pacific Rim marketing options, especially with Japan, have resulted in a more than twofold increase in local timothy hay acreage. Various growing, processing, and shipping innovations for this crop have resulted in unique features in the cultural landscape. [2]

**RANDALL C. KYES.** University of Washington. *Research and Training at the Tinjil Island Natural Habitat Breeding Facility.* The Tinjil Island Natural Habitat Breeding Facility (NHBF), located off the south coast of West Java, Indonesia, provides a restricted natural habitat for the breeding of simian retrovirus-free longtailed macaques (*Macaca Fascicularis*). The NHBF was established in 1987 as a means of providing monkeys for biomedical research while enhancing Indonesia's conservation efforts. The facility also provides excellent opportunity for field research and training. An on-going census of the island population represents the most extensive research project to date and has provided long-term assessment of population demographics and management practices. Current population size is estimated to be 1500 macaques (originating from 520 adult breeders). Since 1991, an active training program in primatology has provided educational and field study opportunities for both Indonesian and American students. An annual field course in primate behavior and ecology, supervised field research, and thesis projects are among the training activities conducted at the Tinjil Island NHBF. [1]

**RUTH LEAL.** Big Bend Community College. *El Norte.* A result of an extensive series of personal interviews, this paper presents a case study of a Mexican woman and her family living illegally in the

United States. This paper begins with Patricia as she makes a critical decision to come with her children to the north. The paper goes on to document her long trek across Mexico, and her treacherous escape across the border separating Mexico from the United States. We will follow her as she makes her way through California and to the road that finally led her to a small agricultural community in the Pacific Northwest. As Patricia's story unfolds we will also learn of her decision to stay and how she manages to survive in a hostile environment. [4]

**DONALD LELAND, DEIDRE SANDERS, NANEEN STUCKEY, and KATHLEEN MOONEY.** University of Victoria, Victoria, British Columbia. *What the People Said: Kwakwaka'wakw, Nuu-chah-nulth and Tsimshian Testimonies Before the Royal Commission on Indian Affairs for the Province of British Columbia (1913-1916).* During the 1980s and 1990s there has been a flurry of negotiations concerning aboriginal land claims and rights in British Columbia. The negotiations are aimed at "settling" the aboriginal land claims issue in British Columbia. The first attempt at such a settlement was begun by the governments involved in the 1870s and there were also later attempts, notably the Royal Commission on Indian Affairs for the Province of British Columbia (1913-1916). This royal commission traveled the province and heard testimony from both Native people and other interested parties concerning land, reserves, and other aboriginal issues. This paper is a "manifest content analysis" of the testimonies given before the royal commission by people belonging to three of the major coastal aboriginal groups, the Kwakwaka'wakw, Nuu-chah-nulth and Tsimshian. Both the broad similarities and some important differences between the testimonies are described. The analysis shows that many of the same themes and concerns that were voiced by aboriginal people in 1916 continue as major themes and concerns to aboriginal negotiators today. In particular, there was a strong desire both to secure access and control of the traditional resource base and to secure opportunities to participate in the contemporary British Columbia economy. [16]

**DANA LEPOFSKY, DOUGLAS HALLETT, and KEVIN WASHBROOK.** Simon Fraser University; Simon Fraser University; Aboriginal Title and Rights, Sto:lo Nation, Sardis, B.C. *Traditional Resource Management: The History of Controlled Burning Practices among the Sto:lo of the Fraser Valley, British Columbia.* Ethnographic documents suggest the practice of controlled burning was widespread among the First Nations of the Northwest Coast at the time of European contact, yet we have almost no information about prescribed burning practices prior to contact. Based on other archaeological evidence for prehistoric resource management, controlled burning may extend as far back as 2000 years ago. The goals of this research are to document prescribed burning practices among the Sto:lo of the Fraser Valley during the historic and prehistoric periods. We document historic burning practices through interviews with Sto:lo elders. Various paleoecological approaches, such as the dating and identification of soil charcoal, pollen analysis, and documenting forest structure, are used to document controlled burning during the prehistoric period. Results are preliminary, but interviews with elders indicate the widespread practice of using controlled fires to encourage the growth of berries and other useful plants, particularly in the sub-alpine. Our examination of soil charcoal and forest structure in sites identified by elders as having been burned historically, indicate that traditionally burned sites do leave evidence in the paleoecological record. Based on our initial results we expect to be able to reconstruct a long history of controlled burning by the Sto:lo. Documenting the history and ecology of controlled burning has implications for modern resource management. By understanding the history of fires in the high elevation areas, foresters are in a better position to manage these forests. Further, there is interest among the Sto:lo to revive the practice of controlled burning. Some of the burning sites identified by the elders are ideal for reintroducing this form of traditional resource management as well as for establishing "cultural camps" for the Sto:lo. [6]

**DENNIS E. LEWARCH.** Larson Anthropological/Archaeological Services. *Regional Analysis of Pacific Northwest Artifact Assemblages: An Assessment of Products, Problems, and Prospects.*

Regional-scale analyses of artifact assemblages in the Pacific Northwest have been conducted for over twenty-five years. Explicitly paradigmatic classifications with a distinction between attributes of style and function have been used primarily by students from the University of Washington on research and cultural resource management projects throughout the region. Numerous quantitative studies have also been conducted using more traditional culture historical types that combine elements of style and function. Products and problem areas of the two approaches are compared and reviewed from a historical, developmental perspective. Future directions of regional-scale research are explored by estimating the opportunities afforded by GIS and other computer applications. [17]

**DENNIS E. LEWARCH.** [12]

**KARL D. LILLQUIST and KELLY B. PETERSON.** Central Washington University. *Recent Mass Wasting in the Upper Yakima River Basin, Washington.* Rain-on-snow events commonly occur during winter months in the Pacific Coast states and provinces. These events typically consist of a heavy mountain snowpack rapidly melted by a jet stream-transported influx of warm, moist air from the tropics. Lowland flooding is an obvious result of these events; however, mass wasting is also very common. Major rain-on-snow events occurred in late November/early December 1995, and again in February 1996 in the upper Yakima River Basin of central Washington. The purpose of this paper is to describe several upper Yakima River Basin mass wasting features associated with these rain-on-snow events, and to reconstruct the events that led up to the slope failures. Mass wasting features were observed in the field both during and after the rain-on-snow events of Winter 1995-1996. Rain-on-snow induced mass wasting during Winter 1995-96 occurred in a variety of bioclimatic environments and on various substrates in the upper Yakima River Basin. Most features observed were slumps with debris flows at the toes. The majority occurred on slopes recently logged. Many were also found on slopes oversteepened by road construction or stream erosion. The effects of the Winter 1995-96 rain-on-snow induced mass wasting events were widespread. Several main transportation routes through the area were impassable for days. The sudden sediment flush from debris flows into streams likely had a negative impact on aquatic life, including threatened and endangered fish populations. [2]

**DEE W. LLOYD.** U.S. Department of Energy. *Locke Island and "Who's on First": A Cultural Resource Manager's Predicament.* As the cultural resources manager for the Department of Energy, it is my job to ensure that cultural resources at the Hanford Site are managed, protected and considered as part of federal undertakings. During an inspection of Locke Island in the summer of 1995, it was noted that the island's eastern shore was visibly eroding. Plans were made with cultural resource staff at the Pacific Northwest National Laboratory to evaluate and monitor the erosion and cultural resources on the island during 1996. The more information we gathered, the more complex the problem became to mitigate the damage to the historic district. This Paper will examine who the potentially responsible/interested parties are in this situation and the discussions held with tribes, SHPO, ACHP, and other Federal agencies. Potential management options and the regulatory drivers that may affect future decisions will be presented. [23]

**ERNEST S. LOHSE and DOROTHY C. SAMMONS.** Idaho State University. *A Computerized Data Base for Lithic Use-wear Analysis.* Recent advances in digital imaging and the construction of computerized data bases have great potential for the development of more sophisticated lithic use-wear analyses. We have applied commercially available image analysis packages to the study of stone tool assemblages. High resolution digital imaging techniques greatly aid in the identification and recording of distinctive attributes and patterns of stone tool manufacture and wear. This paper describes the analytical system we have developed and our creation of an instructional CD-ROM to teach the system to analysts. To date, many of the problems we have encountered are practical, technical and solvable, such as memory requirements, file sizes, and transfer rates. More compelling problems involve definition of the data base structure and the development of explicit terminology and standardized measurements derived from current research. Our goal in the future is to be able to transfer text overviews, with complete data sets, and live digital images to other researchers. [12]

**JULIE LONGENECKER, THOMAS BAILOR, and JEFF VAN PELT.** Confederated Tribes of the Umatilla Indian Reservation (CTUIR). *Golf, Mammoths, and Cultural Resources Monitoring.* During the 1996 field season the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Cultural Resources Protection Program (CRPP) were involved in several large construction projects. Due to the ground disturbing nature of the projects a cultural resources inventory was required. However, an inventory was not considered sufficient by the CTUIR in some instances and the CRPP recommended monitors. Several sensitive and significant sites were identified during CTUIR monitoring efforts. An 11,000 year old mammoth site, a Native American cemetery, and other sites were identified. Archaeological inventory and sampling methodology is limited and should be recognized as such. How often are unknown archaeological sites and other valuable resources being lost during major ground disturbing projects? Monitoring is an important cultural resources management tool that can supplement the archaeological inventory process. [8]

**JULIA LONGENECKER.** [19]

**CHARLES T. LUTTRELL.** Eastern Washington University. *Results of Phase II Archaeological Testing of Benton Meadows Site 10NP315 on Craig Mountain, Idaho.* A second phase of test excavations was undertaken by Archaeological and Historical Services (AHS) at prehistoric site 10NP315 in the Craig Mountain Wildlife Mitigation Area during 1996. These investigations were initiated to determine the potential National Register eligibility of this resource. Excavation results indicate that aboriginal occupation of site 10NP315 extended beyond the Numipu Phase (+250 B.P.), quite possibly to the Windust Phase (10,000-8000 B.P.) of the Lower Snake River chronology. This paper presents a summary of past investigations and preliminary data from the 1996 testing, including information concerning prehistoric utilization of this high elevation (4,666 ft), non-riverine locale in west central Idaho. Site occupation as a probable seasonal campsite with upland resource associations now appears to extend much further into prehistory than was revealed by earlier investigations. [15]

**WILLIAM LYONS.** Washington State University. *White Knives and Black Razors: Lithic Procurement and Use at Lost Dune, a Late Prehistoric Shoshonean Bison Processing Site in Southeastern Oregon.* Lost Dune (35HA792), south of Malheur Lake, Harney County, Oregon, contains in situ cultural material, including tooth enamel and bone of bison, associated with six dated hearths. WSU field schools excavated here in 1995 and 1996. Abundant pottery compares to Shoshonean brown ware



found 100-150 km to the east and southeast in Idaho and Nevada. White knives resemble chert from the Tosawihi quarries in northern Nevada, source of distinctive tool stone of the White Knife Shoshoni, upper Humboldt River. Yet, all 16 obsidian projectile points and flakes identified by XRF are from SE Oregon quarries. Lost Dune data are compared to recent models of lithic raw material procurement and use. [7]

**DOUGLAS H. MACDONALD.** Washington State University. *Hunter-Gatherer Mating Distances and Early Paleoindian Social Mobility in Western North America.* In late Pleistocene societies with extremely low population densities, hunter-gatherers reacted to spousal shortages by either expanding social networks and mating distances or by turning to endogamy. In order to test the hypothesis that furthest travel by early Paleoindians was for exogamous mate-searching, I compare contemporary data on hunter-gatherers regarding logistic and residential mobility with distances between birthplaces of spouses, a measure of mating distance. Ultimately, I support the argument that the extraordinarily large territories of early Paleoindian hunter-gatherers, as seen in the distribution of exotic tool stones at archaeological sites, were the result of mobility for social reasons, such as kin tie maintenance and mate searching. [3]

**CHERYL A. MACK and RICHARD H. MCCLURE.** Gifford Pinchot National Forest. *Horses and Huckleberries in the High Cascades - The Ethnoarchaeology of Kalama't.* The site of *Kalama't* or Indian Race Track (45SA29 1) was a well-known summer rendezvous for Native peoples in the southern Washington Cascades. Located within once extensive huckleberry fields along the crest of the Cascade Range, this site was a focal gathering point for multiple Sahaptin- and Chinookan-speaking groups during the period ca. 1870-1920. Historic references note upwards of 1000 people in attendance at horse races and other social events here. Recent archaeological field survey conducted at the site provides documentation of surface features, including a 300 m linear horse race track, multiple tipi rings, berry drying trenches and sweat lodge depressions. Surface artifacts and features include an interesting combination of traditional technology and modern material culture. The site of *Kalama't* provides a unique perspective on the nature of upland seasonal occupations, as well as an intimate glimpse of evolving Native traditions in the early 20th Century. For contemporary Yakama people, the site of *Kalama't* remains an integral part of the cultural landscape, and an important link to their past. [24]

**JOANNE M. MACK.** Pomona College. *Variation in House Depressions: Upper Klamath River.* Organized into villages and hamlets on the terraces and benches of the Upper Klamath River in Oregon and California, over 250 house depressions show variation in size and form. Though the variations are not great, they may represent differences in chronology, ethnicity, season of use, social organization, and/or function. Though the number of excavated house depressions represents but a small sample, some patterns in construction are discernible and can be linked to chronology and social organization. [21]

**KATHERINE C. MACKINNON.** University of California, Berkeley. *Controlling Processes at Work: Paradigm Shifts in the Field of Primatology.* Most professional fields are subject to and influenced by the sociopolitical climate of the time. The field of Primatology is certainly no exception. Primatology is usually classified as a field within the subdiscipline of physical biological anthropology, itself under the larger umbrella of anthropology. However, primatology can also count among its ranks people trained in the fields of psychology, zoology, and behavioral ecology; thus, primatology benefits from the wide variety of educational and research backgrounds that its members bring to the discipline. In this paper I will address the ways in which primatology is subject to controlling processes (i.e., the way in which individu-

als and groups are influenced by power). For example: How have dominant paradigms shaped the questions asked; influenced how data are analyzed and interpreted; and determined the direction of subsequent research foci within the field? To explore these questions, I will examine central dogmas within the field of primatology, and discuss how they influenced this discipline. [1]

**DAVID MAJSTEREK and DEBRA PRIGGE.** Central Washington University, Dept. of Teacher Education Programs. *A Dialogue on the Study of High-incidence Special Needs Students: General and Special Education Perspectives.* During this session the presenters will briefly acquaint attendees with characteristics associated with populations having high-incidence handicapping conditions (Learning Disabilities, Mental Retardation, and Serious Behavior Disorders), and the impact of such conditions on general-education success. Cultural- historical roots of special education practices that continue to guide special education teachers will be presented. These include applied behavior analysis and direct instruction. Findings in brain research that relate to special education strategies for students with high-incidence conditions, and intra-discipline differences that tend to be associated with special and general education teachers, will be highlighted. [11]

**THOMAS E. MARCEAU.** Cultural Resources Supervisor, Bechtel Hanford, Inc. *The 100-KR-4 Pump & Treat Project: Native American Involvement in the Redesign of a Remedial Project on the Hanford Site, Washington.*

Remediation of groundwater underlying the 100-KR-4 Operable Unit would take place within an area of extreme cultural resource sensitivity. The U.S. Department of Energy, Richland Operations Office (RL), the Environmental Restoration Contractor Project Team (ERC), and Tribal representatives of the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Wanapum People, and the Confederated Tribes and Bands of the Yakama Indian Nation (Tribes and Nation) met to design a treatment system that would protect both the natural and cultural resources within the project area while achieving the project goal of reducing the flow of chromium to the Columbia River. Following this dialogue, the initial project design was substantively altered. Recommendations were made to the design team for adjustments in well locations, well-pad preparation, drilling technique, and road construction to avoid or minimize impacts to known cultural resources before, during, and after construction, as well as during continued operation of the pump-and-treat system. [19]

**JOY MASTROGIUSEPPE.** Washington State University. *The Twist of a Fiber: Archaeological Textiles Along the Lower Snake River.* Several caves eroded by the Spokane floods along the lower Palouse and Snake Rivers were used by Palus people to cache food during the past 2000 years. Excavated cache pits in these dry caves contain a richness of archaeological plant materials including textiles, wood, and seeds. The textiles are primarily fragments of cordage and matting but also include basketry and nearly intact mats. There is an unusual prevalence of sedges (*Carex* sp., *Cyperaceae*) as raw material for cordage of all sizes except fine thread, which is usually made from dogbane (*Apocynum cannabinum*). Other textile fibers include tule (*Scirpus acutus*), grasses (*Elymus cinereus*, *Agropyron spicatum*, *Spartina gracilis*, *Phragmites australis*), sagebrush bark (*Artemisia tridentata*), willow (*Salix* sp.), and spikerush (*Eleocharis* sp). The cordage is mostly two-strand, ranges in diameter from thread to coarse rope, and is usually made of only or primarily one fiber type. Mats are sewn together with dogbane thread (sometimes sagebrush bark) or twined with sedges, and the matting includes some uncommon decorative elements and selvage styles such as folded-warp, braided, and twilled. [10]

**ROLF W. MATHEWES.** Simon Fraser University. *Paleoecology of a Lost World: Late-glacial Paleoenvironments of the Continental Shelf of Northwestern Canada.* The last decade has seen a burst of research activity relating to the glacial history, sea-level changes, climactic history, archeology, and paleoecology of the Pacific Northwest coast. This talk will focus on the results of pollen and plant macro-fossil analyses from radiocarbon-dated late Pleistocene sites along the coast of British Columbia, with emphasis on the period between 15,000 - 10,000 radiocarbon years ago. Comparisons between sea-cliff exposures on the Queen Charlotte Islands and sediment cores from the now submerged continental shelf reveal that treeless tundra-like shrub and herb communities were widespread during late-glacial time. Coniferous trees, beginning with lodgepole pine and then spruce invaded the open landscapes around 12,000 years ago, and many formerly open plant communities were converted to forest. Relative sea levels rose rapidly around the Queen Charlottes and northern Vancouver Island after 10,400 B.P., and by the beginning of the Holocene, much of the late-glacial shelf was flooded. The paleoenvironment of this "lost world" is now being reconstructed, and results so far indicate that it was a biologically diverse and productive landscape that would have been suitable for human occupation. It was also a very dynamic environment, affected by changing sea-levels, climactic instability, and concurrent changes in terrestrial vegetation cover. [22]

**RICHARD H. MCCLURE.** [24]

**PATRICK T. MCCUTCHEON.** University of Washington. *An Archaeological Approach to Meaningful Measurements of Lithic Raw Material Quality.* When measuring lithic raw material quality, researchers have relied almost exclusively on flintknapping. In an effort to circumvent the uncontrolled nature of flintknapping, archaeologists have borrowed material science techniques to make controlled measurements. While these tests provide reproducible results, they are undertaken at an inappropriate scale, making their results irrelevant. An alternative approach for making controlled measurements of lithic raw material quality is presented. The raw material quality of a sample of heated and unheated cherts is assessed using the alternative approach. [12]

**DOUG MCFARLAND, JOHN POULEY and PAM TRAUTMAN.** Central Washington University. *Tryon Creek Micro Archaeology, Hells Canyon, Oregon: Environmental Change and Fill and Floor Layers in a Housepit 1600-500 BP.* Debitage and faunal remains from soil samples are compared to identify floor and fill associated with 1,000 years of housepit occupation. Fill layers are characterized by higher proportions of micro lithic debitage. Floor layers are characterized by more lithic debitage. Floor layers are also characterized by more fragments of bone and smaller size fragments of bone. Shellfish remains are concentrated on floors. Shellfish also occur outside the house. Gonidia shells dominate the assemblage inside and outside of the house. However, higher frequencies of Margratifera in some layers may indicate a shift to less cooler or moist climactic conditions at those corresponding times. [Poster]

**PETER J. MEHRINGER, JR.** [3] [6]

**ROBERT R. MIERENDORF and CRAIG E. SKINNER.** National Park Service; Northwest Research Obsidian Studies Laboratory. *Correlation of Artifact and Source Obsidian, North Cascades National Park Service Complex Washington.* X-ray fluorescence analysis was conducted on four artifacts from prehistoric site 45WH484 and on 17 samples from two nearby obsidian outcrops on Copper Ridge. 45WH484 is a subalpine lithic scatter located on a glacial lake moraine at 5,400 ft. Obsidian outcrops are

exposed at two locations on the ridge, four miles apart. Based on concentrations of 14 trace elements, results indicate that the four artifacts were manufactured of obsidian procured from Locality 2, the closer of the two sources, 1.5 miles from 45WH484. Based on radiometric and tephra dating, prehistoric inhabitants repeatedly camped on the moraine while utilizing this localized obsidian source, beginning about 4,500 years ago and continuing until after 500 years ago. [12]

**JURIS MILESTONE.** Eastern Washington University. *The Alchemy of Blacksmithing and the Contemporary Significance of This Folk Art.* The purpose of this paper is essentially threefold: First, to consider the historical development of blacksmithing and its relationship to associated guild-training, esoteric knowledge, and the eventual effects upon mechanical innovations and concomitant economic and social changes. Second, why has there been a continuing interest among consumers in the products of these select few but thriving artisans who employ the basic concept of transforming natural raw, materials into artistic objects and utilitarian tools, and in what way have these craftsmen adapted to and syncretized with modern technological methods and knowledge? Finally, what continuing socioeconomic functions are served by utilizing traditional manufacturing procedures and applications of handtools for hunting and modifying wood and bone for contemporary human use? [14]

**FENNELLE MILLER and JACK POWELL.** Washington State Department of Natural Resources. *"What Every Archaeologist Should Know About Geology, but Was Afraid to Ask.."* As in many areas, archaeologists working in the Columbia Plateau often have little field training in geology. We have presumed to "know" geology well enough to understand its influence on prehistoric human peoples, based upon having taken a college-level geology class. Recent collaborative efforts between geologists and archaeologists working in the Plateau have resulted in new understandings of the complex interplay between prehistoric humans and the geological underpinnings of their environment. Presented in a "tag-team" approach by a geologist and an archaeologist, this paper attempts to illustrate through examples some of what these two disciplines have been teaching each other in the western Columbia Plateau, and makes suggestions for future work. [22]

**PHILLIP E. MINTHORN.** Smithsonian Institution. *The Warm Springs/Yakama Repatriation: A Case Example in Claimant Decision-Making.* The decision-making aspects of repatriation are two-fold. Because of the diversity in tradition and cultural norms of both the holding institution and the native community, an in-depth understanding must be developed of the situational context upon which repatriation decisions are to be based. The purpose of this paper is to outline the processes of repatriation by way of a case example involving the Warm Springs and Yakama tribes and the Smithsonian Institution's National Museum of Natural History. The return and reburial of ancestral human remains and funerary objects originating from Memaloose Islands on the Columbia River were the end result of this complex process. [8]

**TERESA MIRAMONTES.** [9]

**CHRISTIAN J. MISS and JOHONNA SHEA.** Northwest Archaeological Associates, Inc. *The Smokian and Sam Israel Sites: Archaeological Investigation in the Lower Grand Coulee.* In the summer of 1976, five locations were excavated at two sites at the north end of Soap Lake in the lower Grand Coulee by a field school and volunteers from Central Washington University. The locations included two small mesa tops, two housepit depressions, and an open campsite below the mesas. Thousands of lithic and bone artifacts and various samples were recovered, but never analyzed. This paper presents the

results of those early excavations, analyses of cultural material, radiocarbon dates, and a preliminary exploration of regional settlement and subsistence. The sites suggest that ethnographer Alan Smith's proposal for a year-round occupation of the basins and coulees of the big bend of the Columbia River is a viable one. [15]

**KATHLEEN MOONEY.** [16]

**VERA MORGAN and GLENN D. HARTMANN.** Eastern Washington University. *The Sequim Archaeological Project: Olcott and Late Prehistoric Period Excavations at an Inland Site on the Olympic Peninsula.* Data recovery excavations at 45CA426, an inland site near Sequim, Washington, have identified two cultural components - a considerable Olcott occupation and a late period (ca. 3000 - 1800 years BP) occupation. Preliminary research results are presented, as field investigations concluded in mid March 1997. The artifact assemblage characterized by an extensive inventory of dacite implements and lithic manufacturing by-products including lanceolate points, preforms, and lamellar blade cores. Comprised of well over 20,000 items, this is the most comprehensive Olcott excavation to date in western Washington. Excavations of the late period occupation revealed a semi-subterranean pithouse, numerous hearth/oven features, and activity surfaces, all associated with the exploitation of large game animals. Associated artifacts include a well-developed quartz crystal microblade industry, as well as ground slate and chipped stone implements. [Poster]

**MAURICE E. MORGENSTEIN.** GMI, Inc. *Anthrosol Development in Rockshelters and Open Sites in the Palouse Archaeological District, Eastern Washington.* Natural chemical and mechanical weathering of sterile volcanoclastic sediment and flood-basalt outcrops and boulder fields are the major processes responsible for development of the classic O-A-B soil profiles in both rockshelters and open archaeological sites in the Palouse Archaeological District. Ambrose cell temperature and soil moisture/relative humidity data from a variety of rockshelter soils indicate that vadose-zone moisture levels are relatively high and, therefore, the shelters do not represent the perfect 'dry environment' one might anticipate from at least one of their uses as food storage areas. The shelter soils exhibit minimal chemical weathering in comparison with soils of open sites. Rates of soil development differ in these two basic environments, and the soil/sediment profiles reflect these environmental controls. The deposition of organic debris from human and animal sources provides significant chemical modifications to natural soil development. Consequently, the rates of soil development and weathering maturity are higher in the anthrosols compared to their sterile stratigraphic counterpart. [5]

**JOHN G. MORRISON.** Washington State University. *A Study of Early Cascade Raw Material Utilization at the Castle Rock Site (45WT108).* Early Cascade people employed different lithic technologies based on the raw materials being reduced. The analysis of stone tools and resultant debitage provided insight to the influence of raw materials on the people's lithic technology. The biface classification led to the hypothesis that middle and late stage bifaces were being produced in an off-site context and transported to the site where they were further reduced with a few early stage bifaces being produced in an on-site context. The debitage analysis found that only one of three criteria platform preparation, supported the conclusions drawn about the reduction of bifaces. Data from the biface and debitage analysis combined with the distribution of raw materials produced a pattern in which high quality, non-local raw materials were mostly used in the production of formal tools while locally available, low quality raw materials were used in the production of expedient tools. [3]

**JOHN G. MORRISON.** Washington State University. *Hanford Nuclear Reservation Cultural Chronology: A New Mid-Columbia Chronology.* The Mid-Columbia region has suffered from a lack of a rigorously defined cultural chronology. The Hanford Nuclear Reservation chronology is an attempt to create a well-defined cultural chronology using the available data from the region. Numerous surveys and testing projects have been conducted in the region generating large amounts of data with limited value in developing a cultural chronology. The majority of tested sites in the region are of limited scope, lack multiple components (stratigraphically thin), and are poorly dated (few if any radiocarbon dates). In creating a cultural chronology for the Hanford Nuclear Reservation, previous cultural chronologies were synthesized using their best attributes along with additional excavation data from other Mid-Columbia region sites. The sites were evaluated on three criteria: dating methods, stratigraphic control, and assemblage quality. The result is a cultural chronology that accurately reflects the available data for the Mid-Columbia region. [15]

**JANICE LEIGH (DILLARD) MOULDS.** Washington State University. *The Complete Chimpanzee: A Mirror into Prehistory.* This work synthesizes research into chimpanzee (*Pan troglodytes*) behavior in an effort to create a model of early hominid life-ways. When comparisons to humans or early hominids are made, they are accomplished using a limited number of behaviors (e.g., tool use, male-female roles, etc.) and are rarely the purpose of research working models. It is my intention to utilize research done in the areas of culture, environment, physiology, diet and technology in order to form a succinct model emphasizing the behaviors and subsistence practices of early *Australopithecines*. Chimpanzees inhabit similar environments; possess culture; share a similar technology; possess many of the same physiological and anatomical characteristics as early hominids; and, therefore, make an exceptional model for human evolution. [3]

**JENNIFER M. NAJERA.** Washington State University. *Home on the Basin and Range: Archaeological Testing of a Late Holocene Dune Occupation, Malheur National Wildlife Refuge, Southeastern Oregon.* Models of wetland adaptation began as an attempt to distinguish a lifeway separate from the Desert Culture. As both environmental and archaeological evidence grow, models are revised to recognize regional and temporal variability within the Great Basin. The flexibility of generalized foragers-key to success of 'desert culture' peoples-is once again a prominent feature in subsistence models. Archaeological testing of dunes within the Malheur National Wildlife Refuge, southeastern Oregon, contribute to the local chronologies of prehistoric use of these wetlands. Radiocarbon dated at around 2000 BP this occupation is at a potentially important point regarding a transition in settlement-subsistence practices. [7]

**MARGARET NEWMAN.** University of Calgary. *The Use of Molecular Biological Techniques at the Palouse Canyon Archaeological Project.* The use of molecular biological techniques in the analysis of artifactual materials has recently been questioned. However, scientific evidence clearly demonstrates that results obtained from such analyses can contribute a great deal of information concerning prehistoric life-ways. The immunological analysis of materials recovered from the Palouse Project will be discussed. [10] Dropped out of program

**FRED R. NIALS.** Poster.

**NICK NICASTRO.** Cornell University. *Film Preview.* No abstract.

**PAUL R. NICKENS.** Battelle-Pacific Northwest National Laboratory. *Locke Island: Why Is It Important and Why are We Concerned about it?* Due to geological events occurring over the past 25 years, erosion has become an increasing threat to Locke Island, located in the "Hanford Reach" of the Columbia River. For Indian people, the island and surrounding area have been important as a home and fishing location for several millennia. Sporadic monitoring in recent years suggested that important archaeological features and information were being lost to erosion; however, the magnitude and rate of the loss were not known. Beginning in 1995, more systematic monitoring measures were implemented, and data began to be collected that would allow evaluation of both the processes causing the erosion and what kinds of remains and data that were disappearing. This paper provides an overview of the natural and cultural history of the island, a summary of past investigations, and a brief review of recent geological events that contribute to the problem. [23]

**ASTRIDA R. BLUKIS ONAT.** BOAS, Inc. *The Palouse Canyon Archaeological Project, BOAS, Inc.* In 1992, BOAS, Inc. began a project of site testing in the Palouse Canyon Archaeological District in order to provide data from which to develop a Cultural Resources Management Plan for the District. In the process of relocating a number of sites to be tested in 1992, additional sites were discovered. Also it was found that the majority of sites tested contained far more perishable materials than lithics. Project emphasis underwent four shifts in focus as a result: 1) additional survey was conducted to locate additional sites within District boundaries; 2) excavation and analysis techniques were adopted to maximize recovery of data from perishable cultural materials, and investigate representative site types; 3) expansion of the boundaries of the Palouse Canyon Archaeological District to include all of the Canyon administered by the Corps of Engineers was recommended, to be accompanied by additional site survey; and 4) a site typology was developed that could serve as a basis for future research, as well as serve as a useful management tool. [5]

**ASTRIDA R. BLUKIS ONAT.** BOAS, Inc. *Snake and Beaver Lived There.* A rock outcrop in the Nookachamps Creek valley was proposed for removal as a rock quarry. Parties interested in cultural resources at the location had to take legal measures to assure an archaeological survey. In 1993, graduate students from Simon Fraser University, their Professor, a National Park Service archaeologist, and I volunteered to survey the site. A review of the documented mythology for the vicinity, an interview with an Upper Skagit elder, and a topographic overview of the valley, led to the hypothesis that the large outcrop was Snake, that nearby Beaver Lake and a low hill were Beaver's house, and two minor rock outcrops in the valley were Mouse and Frog, other characters from the story. The story can be read for humor, a lesson in marriage, informs the local climate and landscape, and has an underlying spiritual significance to Nookachamps people. During the survey, a petroglyph of a snake was found on a rock adjacent to the outcrop, as were a number of lithic artifacts. Later, other archaeologists (5 plus SHPO) and several geologists (3) confirmed the findings, always constrained by legalities. In the end, only those scientists (2), whose findings agreed with the property owner's contention that no cultural resources were present at the site, received recognition in a ruling handed down by the local Shorelines Hearings Board. The rock outcrop is being quarried. We do not know what has become of the petroglyph. It was badly scarred by all the tests applied to it to scientifically prove its authenticity. [20]

**BRIAN L. O'NEILL.** [21]

**JULIUS PATRICK and MANFRED E.W. JAEHNIG.** Confederated Tribes of the Umatilla Indian Reservation. *Recent Mapping of Archaeological Data on Locke Island.* In 1968, David Rice surveyed Locke Island with the Mid-Columbia Archaeological Society and identified six sites: 45GR302a, b, and c, and 45GR303, 304, and 305. Three of these, 302a and b and 305 were designated as housepit sites, and two housepits at 302a were test excavated by Rice and his crew. No report has been written on the test excavation, and data from the earlier survey is minimal. Because of recent erosional danger, the CTUIR Cultural Resource Protection Program completed an intensive ground survey of the island. As a result, we identified and mapped numerous artifacts and over 300 surface features. We also mapped artifacts and features along the eroding face of the northeastern shore. We decided to include the southern two-thirds of the island under one site number, 45GR302. In addition, we began laboratory analysis of over 1,200 artifacts collected from the earlier survey and test excavations conducted by Rice. [23]

**KELLY B. PETERSON.** [2]

**RICHARD M. PETTIGREW.** Unaffiliated. *Obsidian Hydration Rates in Eastern Oregon.* The massive dataset of the Pipeline Expansion Project (PEP), which in Eastern Oregon transected one of the world's great centers of archaeological obsidian, has made it possible to develop empirical estimates of obsidian hydration rates for a number of obsidian source materials in several climatically distinct regions. These provisional rate estimates are based on a sample of 5,148 measurable hydration rims and 121 radiocarbon ages (converted to calibrated ages), as well as association with the Mazama horizon at many sites and comparison with regional patterns of effective hydration temperature. The most common and widespread obsidian source materials appear to hydrate at indistinguishably similar rates. Confirmation of the provisional rates is possible through hydration analysis of additional, non-PEP, data sets. Obsidian hydration is becoming a reliable chronometric method in eastern Oregon, and its reliability will improve as the database accumulates. [21]

**PATRICIA PHELAN.** UW-Bothell. *Students' Multiple Worlds Model and Typology.* Phelan will present results from a three-year longitudinal study designed to understand factors that impact students' lives in school. Specifically she will discuss the Students' Multiple Worlds Model and Typology which emerged inductively from data gathered from interviews and observations with 55 culturally diverse adolescents in four desegregated high schools in California. The model focuses on the interrelationships between students' families, peer, and school worlds, and particularly how meanings and understandings from students' worlds combine to affect their engagement in classroom and school settings. This conceptualization also draws attention to the types of transitions that students make, borders they face, and adaptation patterns they utilize. The perspectives of youth and the ways in which they interpret and give meaning to their lives is emphasized as is the usefulness of the model for understanding diversity within ethnic groups. [11]

**LAURA PHILLIPS, TIMOTHY ALLEN, and MARYANN EMERY.** University of Washington. *Vashon Island Archaeological Project: Artifacts.* The Burton Acres Shell Midden yielded an unusually high density of artifacts, both historic and prehistoric. Historic artifacts were found in only the upper three strata. Bone tools appear in the lower strata. Lithics were distributed throughout all the layers, but the formed tools were found only in the lower strata. This 1000-year occupation on Vashon Island provides unique insights into southern Puget sound archaeology, especially the period of contact between Native Americans and Euro-Americans. [25]



**JOHN POULEY.** [Poster]

**JACK POWELL.** [22]

**HEATHER PRATT.** Arcas Consulting Archaeologists. *Recent Investigations at the Beach Grove Site.* The Beach Grove Site (DgRs 1) is a large shell midden site on the Point Roberts peninsula at the southwestern extremity of the Fraser River delta in British Columbia. Between 1956 and 1995, nine archaeological excavations of varying scale have taken place at Beach Grove, making it one of the more thoroughly-investigated pre-Contact sites in the southern Strait of Georgia region. In 1995, Arcas Consulting Archeologists carried out an excavation on the northern half of the site, in response to a proposed residential development. Radiocarbon age estimates indicate that the earliest occupation of the site took place about 4500 BP. At this time, the subtidal platform of the advancing Fraser River delta had reached the offshore island that became the Point Roberts peninsula, but a tidal channel still separated it from the mainland. A more substantial occupation, marked at first by specialized salmon and sturgeon procurement, then by a more generalized subsistence strategy, occurred in this location between about 4000 and 3700 BP. A later Charles Culture occupation commenced around 3500 BP and merged into the succeeding Locarno Beach Culture. Evidence for post-Locarno Beach occupation of this part of the site is lacking. A transitory use of the site around 1000 BP is suggested by a large ash spread near the eastern periphery of the site. Abandonment of the site is postulated to have been a result of the recession of the Boundary Bay shoreline to its present location, about 800 m east of the Beach Grove Site. [13]

**DEBRA PRIGGE.** [11]

**FARID RAHEMTULLA.** Simon Fraser University. *External Constraints and Design of Early Period Lithic Technology at Namu, Central Coast of British Columbia.* The site of Namu has yielded a voluminous amount of chipped lithic material dating from 10,000 to 5,000 B.P. On-going analyses of this material have centered on discernment of behavioral information relating to how the inhabitants organized their lithic technology. One aspect of the study focuses on constraints that may have affected the design of this technology. These constraints involve raw material availability, mobility and transport capacities, and settlement organization. When viewed in this context, the design of the Namu technology suggests that the inhabitants lived in a sedentary situation, and had access to watercraft. [18]

**ELSWORTH RAY.** University of California, Berkeley. *Hierarchy and Sociality in Presbytis entellus Langur Monkeys.* Over the last two decades hierarchy theory has shown itself to be a valuable tool in examining many facets of life, e.g., taxonomic relationships and ecological communities. The theory argues that nature is organized in a hierarchy of emergent levels. Hierarchy theory, however, has not received much attention as to its use in investigating the biological phenomenon of sociality, or in establishing a classificatory system for identifying varying types of social units. Current theory holds that non-human primate social systems result from the differing reproductive strategies of males and females. The social systems of Presbytis entellus as one example, however, do not fit predictions based upon the current prevailing theoretical model. Instead, this species is found to have different social systems throughout a wide variety of habitats. In this paper, the fundamentals of hierarchy theory are presented with a focus upon its applicability in examining issues of social life. It is argued that levels of sociality do exist, and that these social levels emerge from the social processes of the individuals. Further, it is argued, that hierarchy theory needs to be incorporated in our examination of the evolution of social behavior if we are to understand the nature of social existence. [1]

**JEFFREY D. RAYMOND.** Eastern Washington University. *The Role of Ethnicity Among the Contemporary Maya of Guatemala.* This paper involves a review of the current literature concerning the resurgent role of ethnicity as a response to oppression and modernity in contemporary Guatemala. Examples of Mayan communal and broader ethnic, indigenous reactions to political, economic, and social forces provide the foundation for understanding the expressions of ethnicity among the present day Maya of Guatemala. The conflict between ladino and indigenous peoples will exemplify reasons behind the recent resurgence of the concept of Mayan ethnicity. Examples of the manifestation of this new ethnicity are presented in comparison with the concept of Mayan ethnicity as a basically historical, pre-Hispanic tradition. The emphasis of the paper focuses on the forces behind this resurgence of Mayan ethnicity in contemporary Guatemala. [4]

**IAN RITCHIE.** [20]

**CYNTHIA ROAT.** Cross Cultural Health Care Program, PMC. *Medical Interpreting: the Emergence of a Profession.* Using concrete examples from Western Washington and from around the nation, this presentation will trace the development of medical interpretation from an informal service offered by family members to a newly emerging profession. I will discuss the pressures leading to the spreading use of professional interpreters in medical settings; the development of a sense of uniqueness among medical interpreters; the definition of roles, standards and protocols; the emergence of training programs and the establishment of independent professional organizations. [9]

**LYNN A. ROBBINS.** Western Washington University. *Collaborative and Applied Research: A 20-year Trend in the Upper Puget Sound.* This paper summarizes the applications of collaborative and interdisciplinary research by anthropologists, economic planners, and a physicist with members of the Lummi, Upper Skagit, Sauk-Suiattle, and Swinomish tribes from 1974 to the early 1990s. Several research projects are presented: tribal involvement with the National Environmental Policy Act and the Boldt decisions in a proposal by utilities companies to construct nuclear power plants in the Skagit River valley; tribal economic development strategies for small business development, protection of cultural resources, and preparations for tribal self-government. Because of federal laws such as the National Historic Preservation Act and its amendments, the National Environmental Policy Act, the American Indian Religious Freedom Act, and others, trends in research reveal increased collaboration between tribes and experts; much more tribal control over the types of projects undertaken; and a significant transfer of research skill from the professional to the tribal communities. [16]

**ANN L. ROOT.** Central Washington University. *Evaluation of Water Reallocation Programs in the Yakima River Basin, Washington.* The conflict between water for agriculture and water for fish, off-stream and instream uses, continues to increase in the West. Washington's Upper Yakima River Basin is one area where efforts are underway to reduce the conflict by conserving agricultural water and transferring the saved water to instream flows. Two recent laws, one federal and one State, attempt to overcome the legal roadblocks of the prior appropriation doctrine and reclamation law and expedite such transfers. This paper examines initial attempts to implement these laws, and evaluates the potential for successful use of these laws to reallocate water for instream flow protection in the Basin. Recommendations for improved implementations will be made based on analysis of the two laws. [2]

**BILL R. ROULETTE and DAVID DELYRIA.** Archaeological Services of Clark County. *Results of Data Recovery Excavations at Site 45CL31, Clark County, Washington.* Site 45CL31, located at the southeastern corner of Vancouver Lake in Clark County Washington, was excavated in 1983 by Western Heritage, Inc. under the direction of Gary Wessen. The site contains evidence of multiple cultural components including a pre-Merrybell phase complex (600BC-AD 200) as well as an early historical component. The site is extraordinary in comparison to other sites in the Portland Basin and southwest Washington. An outstanding feature of the site is a late-prehistoric fish weir. Because the site has received little notice outside of a description in a technical compliance report, the purpose of this paper is to describe the results of the data recovery excavation at site 45CL31 with the aim of introducing this important site to a larger audience. [13]

**DOROTHY C. SAMMON.** [12]

**DEIDRE SANDERS.** [16]

**CRICKETTE SANZ.** [1]

**ROBERT LEE SAPPINGTON, DONNA TURNIPSEED, and ALI ABUSAIDI** University of Idaho; Nez Perce National Forest. *The Prehistory of the Nez Perce National Forest.* Nez Perce National forest covers 2.2 million acres in north central Idaho. This incredibly diverse area extends across the width of the state from Hells Canyon to the Bitterroot Mountains. Since archaeological investigations began here in the 1950s approximately 500 prehistoric sites have been recorded, especially along the Snake and Salmon rivers. Because of its rugged terrain and extensive wilderness, many other areas have only recently been examined. Examination of surface collections and comparisons with sites in surrounding regions indicate that Nez Perce National Forest has been occupied for at least 10,000 years. Recent tests excavations and ongoing examination of all site forms are providing new insights into prehistoric settlement patterns, lithic manufacturing strategies, and radiocarbon dates. [15]

**CHRISTOPHER SCHAEFER.** University of Washington. *Obsidian Distribution Patterns within the Upper Klamath River Canyon.* The Upper Klamath River Canyon lies in the Cascade Mountain Range in Northern California and Southern Oregon. There is evidence indicating that the canyon and outlying areas have been occupied by humans for over 7000 years. An analysis of sourced obsidian artifacts recovered from the region provides important information about the distribution patterns of obsidian within the Upper Klamath River Drainage. This information can then be used in the testing of hypotheses relating to differential patterns of obsidian use within the region. In turn, this provides insight into the cultural complexity of the inhabitants of the Upper Klamath River Drainage. [21]

**DAVID SCHAEPE.** Simon Fraser University. *The Maurer Site: Technological Composition and Organization of a 4200 Year Old Permanent House in the Lower Fraser River Valley.* This paper presents the results of recent analysis of lithic material recovered during the 1973 excavation of the Maurer Site house feature in the Lower Fraser River Valley. For the past twenty four years, the Maurer house has remained something of an enigma due to the lack of thorough analysis of its artifact assemblage, architectural description, and suggested 4,200 B.P. date. As a result, potentially significant information from this rare, early permanent house has been largely unusable and ignored. Recent analysis of the Maurer house has generated thorough descriptions of the architectural feature and associated lithic assemblage, and has

largely verified the early date. The objective in this paper is to present descriptions of the house structure and the frequencies and spatial distribution of its lithic assemblage. Inferences on internal activity patterns may be drawn from the observed technological organization. This information adds to the set of comparative data for the technological organization of known sedentary and semi-sedentary populations on the Northwest Coast. In addition, these results further our knowledge of a part of the Northwest Coast in which very little is known about the household patterns of people that lived there between 4,000 and 5,000 years ago. [18]

**BRUCE SCHNEIDER.** Central Washington University. *GIS, 'Glory Holes' and the 'Ultimate Artifact': Identifying Topographic Change in an Historic Mining Landscape.* Industrial mining activity leaves topographic patterns on the landscape that lend themselves to archaeological analysis. These patterns must be studied in order to better understand the ecology of mining activity and to document landscape characteristics for properties being evaluated for eligibility to the National Register of Historic Places. This study examines the use of GIS Digital Terrain Modeling techniques, with historic and contemporary data sources, to identify and describe locations of topographic change that can be attributed to mining activity. [26]

**DONALD SHANNON.** Washington State University. *Breastfeeding Among the Aka: An Evolutionary Perspective.* Breastfeeding throughout the day, in addition to a high amount of skin to skin contact, are highly adaptive infant behaviors and should be expected to occur in natural fertility foraging populations. Results of extensive observations of Aka infants in the Central African Republic show that three to four month old infants are breastfed throughout the day in various contexts. This is consistent with results from other foraging populations (!Kung, Ache) and differ from horticultural and industrial populations. Because the Aka live in conditions which in many ways closely approximate the EEA, it is not surprising that they demonstrate the behaviors which reflect those of optimum adaptive advantage. [3]

**NANCY SHARP.** [13]

**JOHONNA SHEA.** [15]

**CRAIG. E. SKINNER.** [12]

**RACHEL L. SMITH.** Washington State University. *Southern Exposure: Kiva Variation and Anasazi Migration.* The abandonment of the Northern San Juan region of the Southwest after AD 1280 was accompanied by population increases in both the Rio Grande and Western Pueblo areas. Current theory holds that people migrated from the Northern San Juan into these areas. My research compares the architectural features of kivas in the Northern San Juan area prior to AD 1280, with those of the Northern Rio Grande area at this time and immediately following. Results suggest that if a migration from the Northern San Juan to the Northern Rio Grande occurred, the northern kiva pattern was not transported intact. Similarities and differences of kivas in the two areas are examined to shed further light on the "migration problem." [7]

**ELIZABETH SOBEL.** The University of Michigan. *The Role of Euroamerican Metals in Native Status Systems in the Lower Columbia River Basin.* A focal issue in Northwest Coast anthropology is the effect of Euroamerican contact on social inequality and other aspects of social organization in Native

societies. In discussing this issue, a number of scholars argue that post-contact change in Native social status systems is integrally related to indigenous uses of Euroamerican material culture. However, the roles of Euroamerican goods in many Northwest Coast societies are unclear. This paper examines the role of Euroamerican goods in Native social status systems in the Lower Columbia Basin during the early historic period (ca. A.D. 1792-A.D. 1830), through the analysis of historic and ethnographic data (including Native oral tradition). Discussion centers on Euroamerican metals, one class of introduced goods. Both the status values and utilitarian values which lower Columbia peoples attached to introduced metals, and how these values changed over time during the early post-contacts years, are explored. [21]

**RODERICK SPRAGUE.** University of Idaho. *Palus: The Village, The Band, and The People.* The modern term Palouse is unquestionably taken from the place name at the confluence of the Palouse and Snake Rivers. Attempts to assign the meaning to the French language are still found in the literature but are no more than remnants of a long-standing prejudice against Native American culture. The Palus had early and extensive contact with Euroamericans yet remained one of the outstanding non-treaty groups in the Plateau. Because of their location at the major road crossing on the Snake River, there is an extensive literature beginning with Lewis and Clark. Also numerous photographs exist of the few inhabitants of Palus Village, especially during the construction of the high trestle. In spite of claims to the contrary, the Palus today are not represented by any single reservation but are found on at least the Yakima, Nez Perce, Umatilla, Colville, Spokane, Coeur d'Alene, and Warm Springs reservations. [10]

**DARBY C. STAPP and JULIA LONGENECKER.** CH2M Hill Hanford, Inc.; Confederated Tribes of the Umatilla Indian Reservation. *Tribes and Cultural Resource Management in the Mid-Columbia River Region: a Look to the Future.* Tribal involvement in cultural resource management is becoming commonplace in the Mid-Columbia River region. Tribal staff are involved routinely in identifying, documenting, and developing management options for clients such as the U.S. Department of Energy (DOE) and the City of Richland. History will show that the DOE was a major catalyst for the tribal involvement movement in the region, inviting Tribes into the management process and providing funding to facilitate such involvement since the mid-1980s. The experiences from the Mid-Columbia indicate that the future benefits to Indian people and the CPLM profession will be substantial if the two groups can continue to work together. [19]

**JULIE K STEIN.** University of Washington. *Vashon Island Archaeological Project: A Public Education Project.* In June of 1996, the Burton Acres Shell Midden (45KI437) on Vashon Island was excavated as part of a public education project. The endeavor grew out of King County Landmarks and Heritage Commission's desire to designate the site as a landmark. The permit for the excavation was supported by the Puyallup Tribe of Indians, after a Memorandum of Agreement was signed between the Puyallup, Burke Museum, King County, and McMurray Middle School. The Burke Museum organized the project, hiring twelve archaeologists as supervisors. The excavation ran for twelve days during which time 375 members of the public participated, and over 1000 people visited the site. Four one by one meter units were excavated, the deepest reaching 60 cm below the surface. Artifact analysis indicates that occupation occurred both before and after the period of contact with Euro-Americans. The project cost over \$25,000, with funding from grants and private donations. The events, organization, and logistics will be described and evaluated. [25]

**JULIE K. STEIN and LAURA PHILLIPS.** University of Washington/Burke Museum; Burke Museum. *Vashon Island Archaeological Project: Results and Conclusions.* The Burton Acres Shell Midden was occupied for the last 1000 years, and members of the Puyallup Tribe remember procuring herring at the location. The site appears to have been a summer fishing and shellfish processing site, although the artifacts, fauna, and flora indicate changes occurred during the period of Native American/Euro-American contact. Comments will be made on the meaning of the excavation of the Burton Acres Shell Midden to the Puyallup Tribe of Indians. [25]

**JULIE K. STEIN.** University of Washington. *The Shell Ridges of British Camp: the Origin of Southern Northwest Coast Houses.* Excavations of one U-shaped ridge at British Camp (45SJ24), San Juan Island, suggest that the feature is a house. The house was smaller than houses recorded by ethnographers or explorers, and has large shell ridges around the outside walls. Twenty-five radiocarbon samples suggest that the entire ridge and area in the center was deposited within about 100 years, starting 1300 years ago. These dates are similar to ones obtained by R. G. Matson in 1980 from the U-shaped ridges at the Beach Grove site. These data suggest that single-family houses developed prior to the multi-family houses recorded ethnographically, and have implications for the origin of social complexity in the Northwest. [13]

**CAROLE A. S. STEIN-MANDRYK** Harvard University. *Late Quaternary Paleoenvironments of Northwestern North America: Implications for Inland vs. Coastal Migration Routes.* One of the most contentious issues in American archaeology concerns the timing and route of the initial peopling of the New World and the mode of subsistence of these earliest inhabitants. The presence of human settlement at Monte Verde in Chile by 12,500 years ago suggests that whether the earliest Paleoamericans traveled the interior ice-free corridor route or the coastal route, there is clear potential for human presence in North America during the Pleistocene-Holocene transition. Determining the precise character of these early adaptations requires not only stratified sites with preserved organic remains but detailed paleoecological studies that can provide the necessary paleoenvironmental context. The vegetational and environmental dynamics of the ice-free corridor of western Canada and its implications for alternate migration scenarios regarding first entry into the Americas are presented. [22]

**NANCY STENHOLM.** [25]

**BILL STERUD.** Puyallup Tribe of Indians, Chairman of Tribal Council. *Vashon Island Archaeological Project: Interpretations.* Comments will be made on the meaning of the excavation of the Burton Acres Shell Midden to the Puyallup Tribe of Indians. [25]

**FREDERICK STRANGE.** Eastern Washington University. *Mestizaje in the Mexican Countryside.* Despite challenges to essentialist definitions of indigene and peasant, *mestizaje* (mixed Indian and European culture) has scarcely begun to receive attention in anthropology as more than a residual category. Most conceptualizations of *mestizaje* have been put in the service of nationalist movements, offering little understanding of, or encouragement to, rural people with an indigenous past and an ambiguous self-identify. The meaning of *Mestizo* can be seen to vary as between insider's and outsider's view, by peripherality of place, and by social class. Furthermore, the use of the concept often mirrors attempts to either escape or construct indigenous identities. These reflections are set against observations over a number of years, in a mestizo-Nahuat village, of the way members view themselves vis-a-vis other peasants, *gringos*,

and their ancestral past. Whether Nahuatl, Hispanic, or Mestizo, their identities have emerged from shifting situational oppositions to their "others." [4]

**MICHAEL STRIKER.** 3D/International, Environmental Group. *Evaluating the Cultural Significance of Animals in Traditional Cultures.* In her 1988 article "'The Importance of a Rose': Evaluating the Cultural Significance of Plants in Thompson and Lillooet Interior Salish" (American Anthropologist 90(2):272-290) Nancy Turner described an index of cultural significance (ICS) for plants. The ICS is figured through the use of a formula based on the potential applications of each plant, ranked according to the cumulative contribution of individual applications to survival along with the intensity and exclusivity of each use. Turner suggested that the formula as developed for plants may be "adaptable to evaluation of the cultural significance of animals or other perceptually valid entities within a culture" (p. 279). With some modification, Turner's ICS formula has been adapted for evaluating the cultural significance of fauna and illustrated with examples from information on Plateau cultures during the ethnographic period. [24]

**NANEEN STUCKEY.** [16]

**DOREEN TANENBAUM.** Central Washington University. *From Socialization to Collaboration: The Reggio Emilia Approach.* This paper considers the changes in family and economic conditions in the U.S. to examine how the Reggio Emilia socialization process might be adapted in the United States. Over the past 25 years, the industrialized municipality of Reggio Emilia in northern Italy has established 22 preschools and 14 infant/toddler centers. Why are educators from around the world drawn to the Reggio Emilia approach? American experts in early childhood education are looking to the work of Loris Malaguzzi, the founder of the Reggio schools. How might American educators apply this approach to a highly diverse community? [11]

**GUY L. TASA.** [21]

**GAIL THOMPSON.** Historical Research Associates, Inc. *Opportunities and Limitations for the Tribal Involvement in Studies Conducted under Section 106 of the National Historic Preservation Act.* With the publication in 1990 of NPS Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties, cultural resource studies conducted under Section 106 of the National Historic Preservation Act have increasingly taken into consideration places that may not have archaeological remains but do hold cultural significance to Indian Tribal groups. Consultations with these groups vary from letter or telephone calls to ethnographic interviews, Researchers have had to develop methods to deal with tribes' concerns about confidential information on cultural properties as well as understand impacts on them and consider the practicality of mitigation measures. Several case studies are discussed. [19]

**PAM TRAUTMAN.** [Poster]

**SCOTT TURNER.** Central Washington University. *Biomechanical Adaptations in Long Bones of Human Males and Females.* Bone mass readings were taken from cross-sectional CAT scans of 35 long bones. CAT scans were completed with the help of the radiological staff of Kennewick Hospital. Dr. Christopher Ruff of Johns Hopkins Medical Center, calculated bone mass from the CAT scan results.

Observations of muscle attachments to bones were also evaluated. These combined data indicate different biomechanical adaptations among male and female hunting/gathering/fishing people of the Pacific Northwest. Males exhibit more muscle attachment (deltoid tuberosity) with less bone mass in the upper arms (humerus). Females exhibit more bone mass and less muscle attachment. In the lower long bones (femur and tibia) males exhibit more muscle attachment (linea aspera) along with greater bone mass. Some female femurs exhibit a third trochanter (pronounced gluteal tuberosity). Muscle attachment may index total strength required in work, and bone mass may index repetitive stresses required in work. These differences suggest the divisions of labor common to the economy of hunting/gathering/fishing people. I infer that the anatomical differences between males and females are the result of different proportions of time spent canoeing, netting, hunting, plant gathering, and food processing. [Poster]

**DONNA TURNIPSEED.** University of Idaho. *Lessons From a Ditch.* Water conveyance systems associated with placer mining remain among the most poorly understood and least appreciated archaeological features of early mining districts. A unified study of both the documentary and archaeological record provides a more complete understanding of the economic and technological significance of these water systems. The investigations of three water conveyance systems associated with Nineteenth Century Idaho placer mining are presented in order to illustrate what can be learned from a ditch. [20]

**DONNA TURNIPSEED.** [15]

**MORRIS L. UEBELACKER and DOUGLAS EITEMILLER.** Central Washington University. *Native American Resource Patterns, Upper Yakima River Basin, 1860-1996.* In 1855 a treaty was negotiated with various bands of Native Americans in the Eastern Cascades of Washington State. This act, in part, structured the evolution of the cultural landscape and established cultural boundaries between Native and Non-native people. Although many natural and cultural forces, unknowable by the treaty makers, have and continue to shape the emerging landscape, environmental alteration continues to play a dominant role. In this work the resource landscape of a portion of the eastern Cascades is reconstructed in reference to the Treaty of 1855 with the Yakama Indian Nation. Questions surrounding the historic distribution of resources reserved by the Treaty and the distribution of those resources today are addressed. Spatially the focus is on the upper Yakima River Basin, a watershed politically contained by the more recently emerged Kittitas County. Elevation gradients, watersheds, biodiversity, ecosystems, treaties, and land division are central themes. [2]

**ALINA J. URBANEC.** Pacific Lutheran University. *Maintaining Elite Social Status in an Era of Political Evolution and Volatility: A Nicaraguan Case.* The study of social elite within any society requires theoretical consideration of inequality, hegemony, class, gender and kinship. This paper focuses the maintenance of elite class status during a period of recent Nicaraguan history giving special attention to two prominent families. The history of Nicaragua records the importance of elite families in defining the political and social structure of the country. Despite the political turmoil of recent decades, these same families have continued to exist with their place in society secure. This paper shows how two of these families, the Chamorro and Somoza families have maintained their social importance. It looks at the Chamorro family, historically prominent, whose struggle with the Somoza regime was instrumental in altering the dynamic of their respective social and political positions. The definition of "a family of quality" combines aspects of class, material wealth, power and historical reputation. These concepts are vital to the understanding of the role of the new elites which are evolving in contemporary Nicaraguan society. [4]



**JEFFREY VAN PELT.** Confederated Tribes of the Umatilla Indian Reservation. *"Not Just Stones and Bones."* One method employed to provide a more rounded experience for tribal members is through the "Aboriginal Lifeways Prehistoric Artifact Recognition Cultural Resource Training" held each year on the Umatilla Indian Reservation. Approximately 100 youth from different Indian reservations gather for one week to be trained in cultural resource management. Lectures and on-the-ground fieldwork are combined with lessons in traditional arts and discussions with elders to expose the youth to the importance of cultural resources to their lives. This film documents the 1995 training session. [19]

**JEFFREY VAN PELT, MICHAEL S. BURNEY, and THOMAS BAILOR.** Confederated Tribes of the Umatilla Indian Reservation. *Protecting Cultural Resources on the Umatilla Indian Reservation.* In the past ten years, the Confederated Tribes of the Umatilla Indian Reservation Cultural Resource Protection Program has developed into one of the major tribal cultural resource programs in the United States. The program emphasizes tribal members working directly with tribal elders in the field, thereby providing day-to-day historical information on past and present land use to younger tribal members. This traditional method of teaching provides our youth with the knowledge unique to our elders. By adhering to this oral tradition of teaching and learning, our program supports the native system in which we live. [19]

**JEFFREY VAN PELT.** [8]

**BRIAN C. VIVIAN.** Dept. of Archaeology, University of Calgary. *Filling in the Blanks: Exploration and Prehistory in Banff National Park.* Historic visions of the Rocky Mountains as a ruggedly remote, marginal environment, which acted as barrier between human occupations to the east and west have prevailed despite evidence to the contrary. Nowhere is this more true than in Banff National Park. Historic and abundant archaeological sources combined confirm that alpine environments were an integral part of the pre-contact adaptations to the greater Banff Park region. Yet the original European perceptions of the Rocks have been slow to change. The breadth of indigenous knowledge and use of this same region is rarely acknowledged in modern historic accounts. This paradox is examined and explained in a close textual reading of the exploration accounts of the Banff Park region. [15]

**CHRISTOPHER C. WAHLFELD.** University of Montana. *Biomedical Encounters and Medical Syncretism.* Like other attributes operating within a community, medical practices are a dynamic characteristic of culture. Encased within ideology and world view, these practices form as a direct response to both the physical and social environment. Therefore; as aspects of a people's environment change, so will their medical practices. Over the past two and a half centuries, social actions, such as the Industrial Revolution, massive world wars, and continual global colonization, have increased the rate at which environmental changes occur. Through differing forms of culture contact, global medical practices have permeated, and in many cases saturated, previously extrinsic communities, effectively altering the prior form(s) of medical practice. The increasing level of medical pluralism has had a profound effect upon medical practices worldwide. Therefore, this paper discusses the concept of medical syncretism as a distinct form of cultural adaptation that bridges the gap between two previously distinct forms of medical practice. [9]

**KEVIN WASHBROOK.** [6]

**PRISCILLA S. WEGARS.** University of Idaho. *A Glimpse of the Past: The Joso Trestle Construction Camp Project.* During the fall of 1980, a University of Idaho excavation team under contract with the U.S. Army Corps of Engineers, Walla Walla District, conducted archaeological salvage operations at the 1913-1914 Joso Trestle Construction Camp site. (45-FR-51) on the Snake River in Eastern Washington. A fish hatchery now occupies the site. Historic photos, showing the buildings that were once there, challenged us to correlate the excavated features and artifacts with the particular structures that were formerly present. Analysis of the artifacts provided a great deal of specific information about the camp and its workers. Particularly notable were their leisure-time activities, which included drinking and playing poker. Women's articles and children's toys were surprising finds, while historic documentation and Chinese artifacts enabled us to identify workers from several ethnic groups. [10]

**ROBERT M. WEGENER, PETER J. MEHRINGER, JR., and CARL E. GUSTAFSON.** Washington State University. *Prehistoric Bison and Ceramics: Additions to the Archaeology and Chronology of Skull Creek Dunes, Catlow Valley, Southeastern Oregon.* Fifteen years ago, Steens Mountain Prehistory Project excavations showed that, for >8,000 years, people occasionally camped at Skull Creek Dunes and collected small mammals, birds and fish. Soils, 14 C dates and tephra (including Mazama tephra) separated and correlated cultural deposits. Retreating steep-faced exposures have continued to yield charcoal, artifacts, small mammal remains, and bones of deer and mountain sheep. Clusters of new 14C dates indicate relatively heavy use about 3,200 and 2,000 BP and confirm previous stratigraphic studies. Current investigations augment the sequence by addition of brown ware ceramics and in-situ *Bison bison* skull. [3]

**GARY C. WESSEN.** Makah Cultural and Research Center. *Culturally-Modified Trees on the Makah Indian Reservation, Washington.* A recent study of Makah forest utilization has shown that portions of the Makah Indian Reservation contain significant numbers of Culturally-Modified Trees (CMTs). Virtually all CMTs are western red cedars (*Thuja plicata*) and they include both living trees with bark-stripping scars and combinations of logs and stumps reflecting traditional logging. Bark stripping was conducted to obtain raw materials for the manufacture of basketry and cordage. Traditional logging was focused principally on the manufacturing of canoes and planks. Efforts to date these CMTs indicate that most specimens probably represent 19th century activities, but older examples are also present. Clustering of the CMTs provides some support for the view that individuals or groups of individuals (i.e., families) exercised jurisdiction over different portions of the forest. [24]

**GARY C. WESSEN.** Wessen & Associates. *A Historical Overview of Olcott: Ideas About the Early Prehistory of Western Washington.* The notion of an early assemblage type in Western Washington - - referred to variously as the Olcott Complex or the Olcott Phase - - has been a part of the archaeology of this region for more than 30 years. While clearly related to Cascade Phase sites from Eastern Washington, Olcott sites are poorly understood and there is substantial confusion regarding their contents and significance. Review of the documents which initially presented this idea - - notably Kidd (1964) and Dancey (1968) - - demonstrates that they are based upon poorly described and impressively small samples. Some recent studies have made important progress toward documenting the character of Olcott sites and assemblages, but many basic issues remain unclear. [13]

**ELIZABETH G. WILMERDING.** Washington State University. *Preliminary Results of a House Excavation on Chernabura Island, Alaska.* Carbon dates indicate that the Aleuts built and used large, semi-subterranean houses on Chernabura Island, Alaska as early as 3600 years ago. Chemical, pollen, and particle size analyses of soil samples, and the examination of numerous small middens, as well as lithic and faunal remains, contribute to understanding the history of the house's construction and occupation. This paper will present the preliminary results of this research. [7]

**DOUGLAS C. WILSON.** Archaeology Consulting. *A Theory of Fire-cracked Rock.* Fundamental shifts in prehistoric subsistence, settlement patterns, demographic characteristics, and socioeconomic complexity have been documented for the Pacific Northwest. These shifts undoubtedly resulted in dramatic changes in the systems used to obtain, use, and maintain rocks used to transfer thermic energy in hearths and roasting ovens. Changes to "thermal rock" systems undoubtedly also have conditioned the characteristics of the fire-cracked and otherwise thermally-altered rocks found at archaeological sites. The frequency and regularity of use of facilities using thermal rocks are seen as fundamental behavioral processes that temper the stages of reduction of rocks found at sites and the location and density of deposition of rock fragment wastes. A stage- model is proposed to explain the evolution of thermal rock systems in the Pacific Northwest and a research design for future thermal rock studies presented. [21]

**ROSITA WORL.** University of Alaska, SE. *Alaska Native Corporations as Vehicles of Capitalism, Corporate Socialism, and Tribalism.* In 1971 Congress enacted the Alaska Native Claims Settlement Act to resolve the aboriginal land claims of Alaska's indigenous population. It was heralded as an unprecedented settlement in that Congress conveyed 44 million acres and nearly a billion dollars to corporations rather than tribal governments. While Congress fully intended that the corporation should be vehicles of economic assimilation of Native people, it ironically imposed a form of corporate socialism and saddled the corporations with a requirement to share its corporate profits. Congress further directed that the corporations should embody the functions of a tribal government and promote both the economic and social welfare of its constituents. During the past twenty-five years, Native people have taken these directives and altered the corporate model to accommodate their needs and traditional values. [16]

**MONA K. WRIGHT.** Battelle-Pacific Northwest National Laboratory. *A Preliminary Examination of Archaeological Deposits in Eroding Cutbanks at K'watch (Locke Island).* Numerous cultural layers and features were intermittently exposed in an eroding cutbank along the eastern bank of Locke Island during 1996. The presence of multiple cultural layers suggests a long history of recurring prehistoric occupation and use of the island. Ten radiocarbon dates, processed from charcoal samples taken out of the eroding bank, provide a range of occupancy dating from approximately 200 years B.P. to at least 2000 years B.P. A deeper undated cultural layer, buried nearly four meters below the island surface, implies that occupation of the island may predate 2000 years B.P. Investigation of the smaller cutbanks around the island's perimeter reveal a distribution of cultural materials that retain spatial and temporal complexity. The preliminary findings at Locke Island are examined and implications for local and regional research are explored. [23]

**PATRICIA WRIGHT.** Moscow, Idaho Public Schools. *Cabalonia: Digging Up the Past (A Junior High Mock Archaeological Dig)*. On October 1, 1996 students from Moscow Junior High School went on a mock archeological dig at the University of Idaho Plant Science Center. All the educators of the Gold Team combined their subjects and made up a civilization and carefully buried artifacts found in their everyday life. They buried the artifacts in a spot that was appropriate to make students think that it was a real civilization. Students from the University of Idaho came down and showed us techniques of digging properly so that the artifacts were not damaged. We logged each artifact that we found in a field journal and wrote down everything that was needed to figure out what kind of technology they had. We sifted all the dirt to find coins or other small items. After we found all the artifacts, we went back to the school and talked with each other about our findings and their locations. We put all the artifacts in a feature table and concluded that the civilization was named Cubalonia and that Cubalonians worshipped a pine forest. This was an exercise to show the students what archaeology was about and how it was done. [Poster]

**R. E. WRIGHT.** Washington State University. *Strategies for Resource Preservation on the Southern Columbia Plateau: Utilitarian Praxis and Conservation Ideology*. The management and conservation of resources in the southern Columbia Plateau has typically been viewed as the result of passive utilization. Resource abundance was seen as a secondary consequence of mobility, population size, and the cultural preference for certain resources. In contrast to this view, it is proposed that the peoples of the southern Columbia Plateau were not passive resource users, but actively managed their natural resources through a utilitarian praxis. Furthermore, they recognized the limitations and constraints of overuse due to their nature-based ideology. By ideology, I mean to express that a common spiritual attitude existed in traditional Plateau religion, mythology, and social sanction. By praxis, it is implied that a practical pattern of interaction with the natural world occurred. This pattern of land use will be demonstrated through an analysis of ethnographic and ethnohistoric literature from the southern Columbia Plateau. [3]

**VICKIE YBARRA.** [9]

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2nd	1949	Portland	Reed	2(1)
3rd	1950	Seattle	UW	2(1)
4th	1951	Portland	Reed	2(1)
5th	1952	Seattle	UW	2(1)
6th	1953	Pullman	WSU	2(1)
7th	1954	Vancouver	UBC	3(2)
8th	1955	Seattle	UW	2(1)
9th	1956	Eugene	UO	2(1)
10th	1957	Portland	Reed	2(1)
11th	1958	Pullman	WSU	2(1)
12th	1959	Portland	PSU	2(1)
13th	1960	Seattle	UW	2(1)
14th	1961	Vancouver	UBC	2(1)
15th	1962	Eugene	UO	2(1)
16th	1963	Portland	Reed	2(1)
17th	1964	Pullman	WSU	2(1)
18th	1965	Bellingham	WWU	2(1)
19th	1966	Banff	UA	2(1)
20th	1967	Seattle	UW	2(1)

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## NORTHWEST ANTHROPOLOGICAL CONFERENCE

Meeting	Year	City	Sponsor	NARN
21st	1968	Portland	PSU	2(1)
22nd	1969	Victoria	PM/UV	2(2)
23rd	1970	Corvallis	OSU	4(1)
24th	1971	Moscow	UI	7(1)
25th	1972	Portland	PSU	7(2)
26th	1973	La Grande	EOC	7(2)
27th	1974	Corvallis	OSU	10(1)
28th	1975	Seattle	SCCC	10(1)
29th	1976	Ellensburg	CWU	11(1)
30th	1977	Victoria	PM/UV	12(1)
31st	1978	Pullman	WSU/UI	12(2)
32nd	1979	Eugene	UO	14(2)
33rd	1980	Bellingham	WWU	15(1)
34th	1981	Portland	PSU	15(2)
35th	1982	Burnaby	SFU	16(1)
36th	1983	Boise	BSU	18(1)
37th	1984	Spokane	EWU	18(2)
38th	1985	Ellensburg	CWU	19(1)
39th	1986	Moscow	UI	20(1)
40th	1987	Glenedon Beach	OSU	22(2)
41st	1988	Tacoma	PLU	23(1)
42nd	1989	Spokane	EWU	23(2)
43rd	1990	Eugene	UO	24(1)
44th	1991	Missoula	UM	25(1)
45th	1992	Burnaby	SFU	26(1)
46th	1993	Bellingham	WWU	27(2)
47th	1994	Spokane	EWU	28(1)
48th	1995	Portland	PSU	29(1)
49th	1996	Moscow	UI	in press
50th	1997	Ellensburg	CWU	in press





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