

ARARA 2007 Conference Program

Crowne Plaza Hotel, Billings, Montana

Thursday, June 28, 2007

- 8:00 a.m. – 5:00 p.m. **Board Meeting** — Crowne Plaza Hotel, Avalanche Room, 3rd Floor
- 8:00 p.m. **Future Conference Planning Committee** — Crowne Plaza Hotel, room to be announced

Friday, June 29, 2007

- 8:00 a.m. – 5:00 p.m. **Field Trips** — Meeting Locations to be Announced by Field Trip Coordinators
- 2:00 – 6:00 p.m. **Registration** – Crowne Plaza Hotel, Foyer in front of Wood Granite Ballroom, 3rd Floor
- 7:00 – 9:00 p.m. **Reception — Pompeys Pillar National Monument.** Entertainment—Tour of rock art on Pillar (guided by Linda Olson, recorder of this site)
- Pompeys Pillar is located about 25 miles east of Billings. Take I-24 East to Exit 23. There are direction signs to the monument from the Interstate. Maps available at the Crowne Plaza Hotel.*

Conference Registration available.

Saturday Morning, June 30, 2007

- 7:00 – 8:00 a.m. **Vendor and Poster Set Up** — Crowne Plaza Hotel, Whitetail Ballroom, 3rd Floor
- Posters will be set up at the beginning of the meeting and left up until Sunday afternoon. Authors will be at posters at least from 8:00 to 8:30 a.m. Sunday morning.*
- 7:00 – 8:30 a.m. **Publication Committee Meeting** — Crowne Plaza Hotel, Garden Room of Lucky Diamond Restaurant, 20th Floor
- 8:00 a.m. – 5:00 p.m. **Registration** — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
- 8:00 – 8:30 a.m. **Vendor Room Open**, Whitetail Ballroom, 3rd Floor (also open during breaks and lunch)
- 8:30 – 8:45 a.m. **Welcome** — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
- Mavis Greer, ARARA President*
- 8:45 – 8:55 a.m. **Announcements** — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
- Donna Gillette*

Session: Keynote Speaker

Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

Introduction by Mavis Greer

- 8:55 – 10:00 a.m. **Dr. Lawrence L. Loendorf: Rock Art and Dirt Archaeology**
- 10:00 – 10:20 a.m. **Break** — Foyer in front of Wood Granite Ballroom, 3rd Floor
- Vendor Room Open, Whitetail Ballroom, 3rd Floor*

Session: Montana Rock Art, Bear Gulch
Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

James Keyser, Moderator

- 10:20 - 10:40 a.m.** **Mavis Greer and John Greer:** Bear Gulch Montana, History of Rock Art Studies at the Site (Contributed Paper)
- 10:40 – 11:00 a.m.** **George Poetschat and James D. Keyser:** Bear Gulch: 50 Years Later (Contributed Paper)
- 11:00 – 11:20 a.m.** **Melissa M. Ray:** Shield Bearing Warriors of Bear Gulch: Statistical Relationships and Associations (Contributed Paper)
- 11:20 – 11:40 a.m.** **David Kaiser and James D. Keyser:** Symbolic Superimposition: Overlapping Shield Bearing Warriors at Bear Gulch (Contributed Paper)
- 11:40 a.m. – Noon** **James D. Keyser:** “These Curious Appendages”: Medicine Bundles in Bear Gulch Rock Art (Contributed Paper)
- 12:00 – 1:30 p.m.** **Lunch**
Education Committee Meeting — Garden Room of Lucky Diamond Restaurant, 20th Floor
Vendors Open — Whitetail Ballroom, 3rd Floor

Saturday Afternoon, June 30, 2007

Session: Montana Rock Art
Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

James Keyser, Moderator

- 1:30 – 1:50 p.m.** **Lisa Ripps and James D. Keyser:** Bear Gulch: Birds in Ceremonial Tradition Art (Contributed Paper)
- 1:50 – 2:05 p.m.** **Melissa Greer and James Keyser:** The Women of Bear Gulch (Report)
- 2:05 – 2:25 p.m.** **Angelo Eugenio Fossati:** The Shields and the Warriors: Similarities and Differences Between Bear Gulch (Montana) and Valcamonica-Valtellina (Italy) Rock Art (Contributed Paper)
- 2:25 – 2:40 p.m.** **Timothy P. McCleary:** BaaÑ-ichiichiwaau: Crow Indian Narratives of Rock Art (Contributed Paper)
- 2:40 – 3:00 p.m.** **Break – Vendor Room Open**

Session: Research Approaches to Rock Art
Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

Eveyn Billo, Moderator

- 3:00 – 3:20 p.m.** **Marie R. Richards and Grant S. McCall:** Exploring Spatial Variation in Rock Art Site Composition at Ndedema Gorge, South Africa (Contributed Paper)
- 3:20 – 3:40 p.m.** **Donna Gillette:** Placing Cultural Markings in an Archaeological Context (Contributed Paper)
- 3:40 – 4:00 p.m.** **Ken Hedges:** Invisible Landscapes (Contributed Paper)

- 4:00 – 4:20 p.m. **Janet Lever-Wood:** “Images of Power/Words of Faith” (Contributed Paper)
- 4:20 – 5:30 p.m. **Vendors Open** — Whitetail Ballroom, 3rd Floor
- 4:30 – 5:30 p.m. **Book Signing, Keynote Speaker, Dr. Lawrence Loendorf** — Whitetail Ballroom, 3rd Floor
- 4:30 – 5:30 p.m. **Conservation Committee Meeting** — Crowne Plaza Hotel, room to be announced
- 6:00 – 8:00 p.m. **AUCTION** — No Host Bar, and ARARA Sponsored Snacks
Dell Crandall, Auctioneer — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

Sunday Morning, July 1, 2007

- 7:00 – 8:00 a.m. **Website Committee Meeting** — Garden Room of Lucky Diamond Restaurant, 20th Floor
- 8:00 a.m. – Noon **Registration** — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
- 8:00 – 8:30 **Poster Session** — Crowne Plaza Hotel, Whitetail Ballroom, 3rd Floor
Poster Presenters:
- Carolynne Merrell and James D. Keyser:** “Getting It Right”: Accurate Recording of Plains Biographic Art
- Barbara Bane:** In the Interests of Justice: Rock Art Vandalism and a Successful ARPA Prosecution in Chaco Canyon, New Mexico
- Erica Olsen:** An Archivist Looks at Rock Art
- Ryan Ward Swanson:** Petroglyphs & Ginger-Snaps: Rock Art on the Briggs & Ellis Ranch in Southeastern Montana
- 8:30 – 10:00 a.m. **BUSINESS MEETING** — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
- 10:00 – 10:20 a.m. **Break**
Vendors Open — Whitetail Ballroom, 3rd Floor
- Session: Research Approaches to Rock Art**
Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
Lloyd Anderson, Moderator
- 10:20 – 10:40 **Alan Garfinkel and Alexander K. Rogers:** Paradigm Shifts, Rock Art Studies, and the “Coso Sheep Cult” of Eastern California (Contributed Paper)
- 10:40 – 11:00 a.m. **Michael W. Taylor, James D. Keyser, and Phillip Cash Cash:** The Roles of Women in Columbia Plateau Rock Art (Contributed Paper)
- 11:00 – 11:20 a.m. **David Sucec:** Intimate Relations: Associations of Animal, Bird, Snake, and Plant Images with Spirit Figures in Barrier Canyon Style Rock Art (Contributed Paper)
- 11:20 – 11:40 a.m. **Kendra Rodgers and Lawrence Loendorf:** Bear Dance: A Ceremonial Rock Art Site in Southeast Colorado (Contributed Paper)

11:40 – 12:00 p.m. **Lynda McNeil:** Symbolic Recurrence in Rock Art: Evolutionary Psychologists on Memory-enhancing Strategies (Contributed Paper)

12:00 – 1:30 p.m.

Lunch

Vendors Open — Whitetail Ballroom, 3rd Floor

2008 Anniversary Committee Meeting — Garden Room of Lucky Diamond Restaurant, 20th Floor

Presenter's Meeting — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor, at Podium, hosted by Publication Committee

Sunday Afternoon, July 1, 2007

Session: Technology and Rock Art

Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

Alice Tratebas, Moderator

1:30 – 1:50 p.m.

Mark Mudge and Carla Schroer: Simple, Low-cost Reflection Transformation Imaging Documentation Techniques for Rock Art (Contributed Paper)

1:50 – 2:10 p.m.

Tommy Noble and Neffra Matthews: A new Look at Capturing Detailed 3D Images of Rock Art: Advances in Close-range Photogrammetry (Contributed Paper)

2:10 – 2:30 p.m.

Neffra Matthews, Tom Noble, Mike Bies, Larry Loendorf, Danny Walker, Mark Mudge, and Carolyn McClellan: Photographing the Past, Protecting the Future: Using Close-range Photogrammetry to Capture 3D Images of The Legend Rock Petroglyph Site, Wyoming (Contributed Paper)

2:30 – 2:50 p.m.

Jon Harman: The Pictographs of Kachina Rockshelter (Contributed Paper)

2:50 – 3:30 p.m.

Break

Vendors Open (closed after this break) — Whitetail Ballroom, 3rd Floor

Session: Various Research Approaches

Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor

Chris Gralapp, Moderator

3:30 – 3:50 p.m.

E. Gene Riggs: Cerros de Trincheras, Hillside Terraces and Rock Art (Contributed Paper)

3:50 – 4:05 p.m.

Marvin W. Rowe: River of a Thousand Lingas (Report)

4:05 – 4:25 p.m.

Steven J. Waller: Echo Spirits Who Paint Rocks: Memegwashio Dwell Within Echoing Rock Art Site EiGf-2 (Contributed Paper)

5:30 – 6:30 p.m.

No Host Bar — Crowne Plaza Hotel, Foyer outside Wood Granite Ballroom, 3rd Floor

6:30 p.m.

BANQUET — Crowne Plaza Hotel, Wood Granite Ballroom, 3rd Floor
Awards

Entertainment by TJ Casey, Cowboy Singer/Songwriter and Storyteller

Abstracts of Papers

Angelo Eugenio Fossati (Footsteps of Man Archaeological Cooperative Society— Catholic University, Milan, Institute of Archaeology, Italy) (Contributed Paper)

The Shields and the Warriors: Similarities and Differences Between Bear Gulch (Montana) and Valcamonica-Valtellina (Italy) Rock Art

The paper deals with the subject of the shield figures in two different areas in America and Europe: Bear Gulch (Montana) and Valcamonica-Valtellina (Italy) where thousands of shield bearing warriors are visible painted and /or engraved on the rocks. The author tries to find connections and similarities among the two rock art traditions, but also underlines the morphological and interpretational differences. In Valcamonica-Valtellina shields figures are quite important, because they have been used to construct the basis of the entire chronology of the Iron Age rock art tradition. Few other examples of shield warrior figures (sculptures, vessels or funerary paintings) from the Italian peninsula are brought to the attention of the readers.

Alan Garfinkel (California Department of Transportation) and Alexander K. Rogers (Archaeology Curator and Staff Archaeologist, Maturango Museum, Ridgecrest, California) (Contributed Paper)

Paradigm Shifts, Rock Art Studies, and the “Coso Sheep Cult” of Eastern California

One of the more spectacular expressions of North American rock art is found in the Coso Range of eastern California. These glyphs have played a prominent role in attempts to understand forager religious iconography. Heizer and Baumhoff (1962) concluded that Great Basin petroglyphs were intended to supernaturally increase success in hunting large game. Grant et al. (1968) concluded that Coso drawings bolstered the “hunting magic” hypothesis. This hypothesis has become increasingly marginalized by a prevailing view that most rock art is an expression of individual shamanism. Comparative ethnologic and contextual archaeological evidence supports the hunting magic hypothesis. [Previously presented at the 2007 meeting of the Society for California Archaeology]

Donna Gillette (UC Berkeley, California) (Contributed Paper)

Placing Cultural Markings in an Archaeological Context

Often rock art studies focus on the site, not taking into consideration the context of the setting. The paper presented here examines the PCN (Pecked Curvilinear Nucleated) tradition and asks how the pre-historic people were utilizing the landscape. It focuses on the artificial boundary created by the 5358 acre Hopland Research and Extension Center (HREC) in the Coastal Ranges of California. With three PCN sites on the property it provides a micro view of the land and the PCN tradition, and may hold some keys to understanding this tradition and provide a model for other areas where PCN boulders occur.

Mavis Greer (Greer Services, Wyoming) and John Greer (Greer Services, Wyoming) (Contributed Paper)

Bear Gulch Montana, History of Rock Art Studies at the Site

The pictographs and petroglyphs of Bear Gulch, located in the foothills ecotone north of the Snowy Mountains, have been known to rock art researchers in Montana for many years. The hundreds of figures include many variations of the well-known shield-bearing warrior motif, and visitors have focused particularly on that aspect. More recent intensive recording and study during the last few years has expanded attention to the many other kinds of figures, motifs, and subjects, and their relational and physical contexts along the extensive cliffs. The site, although unique in its size and complexity, is more characteristic of the plains than the mountainous areas of central Montana, and its subject matter fits well within the late Plains rock art chronology.

Melissa Greer (Longwood University, Virginia) and James D. Keyser (Oregon Archaeological Society) (Report)

The Women of Bear Gulch

The Bear Gulch site (24FR2), located just south of Lewiston, Montana, is a site dominated by the shield-bearing warrior motif. This locality was used by several local tribes as an important male vision quest area and is seemingly male dominated. However, included in the rock art of Bear Gulch are female motifs that are strikingly different from the hundreds of shield-bearing male warriors. These include a scene depicting childbirth, which is strangely covered in lightly incised shield-bearing warriors, multiple vulva-forms, and women captured in battle. We explore female-related rock art at Bear Gulch.

Jon Harman (www.DStretch.com) (Contributed Paper)

The Pictographs of Kachina Rockshelter

The Kachina Rockshelter in eastern Nevada contains beautiful pictographs attributed to the Fremont culture. The pictographs were carefully documented by Donald Tuohy in 1979. Today digital cameras and digital image enhancement are creating a revolution in rock art documentation. Pictographs that are nearly invisible to the naked eye can be made visible by enhancement. DStretch is a free image enhancement program specifically designed for rock art applications. At Kachina Rockshelter DStretch enhancement brings out figures entirely missed by Tuohy and shows subtle details that no drawing can capture.

Ken Hedges (San Diego Museum of Man) (Contributed Paper)

Invisible Landscapes

Current perceptions that rock art studies are dominated by shamanistic interpretation have led to increased attempts to point rock art research in directions more in keeping with mainstream archaeology. One approach is to explore interpretive implications of the landscape context of rock art by examining associations between settlement archaeology and rock art, and by documenting presumed domestic routines that took place in proximity to rock art. This paper builds on that premise by examining shamanistic interpretation vs. such ill-conceived concepts as the “neuropsychological model,” and by emphasizing that many types of relevant landscapes are invisible in the archaeological record.

David Kaiser (Oregon Archaeological Society) and James D. Keyser (Oregon Archaeological Society) (Contributed Paper)

Symbolic Superimposition: Overlapping Shield Bearing Warriors at Bear Gulch

Bear Gulch is known for its number of shield bearing warriors and their wide variety of associated regalia. Additionally, the site contains more superimposed shield warriors than are found in all other Plains rock art. Superimpositions occur in three types: Those that partially overlap (possibly by accident), those that are significantly overlapped (clearly deliberately), and those that are directly overlaid on a preexisting shield figure (and are thus conjoined with parts of the underlying figure). The latter two categories comprise most of the superimpositions at Bear Gulch, and demonstrate unequivocally that warrior artists ritually reused the site imagery, apparently to access the medicine power inherent in the earlier images.

James D. Keyser (Oregon Archaeological Society) (Contributed Paper)

“These Curious Appendages”: Medicine Bundles in Bear Gulch Rock Art

Animal skin bundles were a common item in Historic Plains Indian culture. Three types of personal Bundles were known including animal skin “flags” or bags, animal pelts worn over the shoulder, and smaller bird or animal skins tied in the hair. Rock art depictions of such bundles are extremely rare, except at the Bear Gulch site, where 17 examples were recorded in recent fieldwork. Of the Bear Gulch bundles, one example is freestanding but the other 16 are worn by shield bearing warriors.

Janet Lever-Wood (California) (Contributed Paper)

Images of Power/Words of Faith

Images of power exist in the rock art landscape. They are also found on the journey that brings one to a particular site. Lines of energy take on many forms. The places where they converge become significant. A recent re-visit to a site in SE Utah triggered a number of thoughts on the spiritual geography we at times enter. Related to previous papers involving the five senses, this presentation is more about synesthesia and time.

Neffra Matthews (US DOI, Bureau of Land Management, National Science and Technology Center), Tom Noble (US DOI, Bureau of Land Management, National Science and Technology Center), Mike Bies (Bureau of Land Management, Wyoming), Larry Loendorf (New Mexico State University), Danny Walker (State Archaeologist’s Office, Wyoming), Mark Mudge (Cultural Heritage Imaging, California), and Carolyn McClellan (Contributed Paper)

Photographing the Past, Protecting the Future: Using Close-range Photogrammetry to Capture 3D Images of the Legend Rock Petroglyph Site, Wyoming

Legend Rock Petroglyph Site, located near Meeteetse, Wyoming, contains major petroglyph panels on three sandstone cliffs. Ownership of the site is jointly held by a private landowner, Wyoming State Parks, and the Bureau of Land Management (BLM). Close-range photogrammetry has been adopted to provide a baseline to monitor the site for natural degradation and vandalism.

The BLM has developed a multi-phased approach for documenting the site in cooperation with Wyoming State Parks. The first phase is to create a spatially accurate photographic mosaic base map for each separate segment of the sandstone cliff. These base maps would be used in both a digital real world system such as GIS or as hard copy maps for field location, inventory, and documentation of rock art panels. These maps will have a resolution and positional accuracy of ~1cm. In addition, the digital photo mosaic can be used to provide visual context to more detailed 3-dimensional digital models of individual panels. The second phase provides detailed 3-dimensional modeling and imaging of individual petroglyph panels. These highly detailed digital re-creations of the individual panels provide a resolution and accuracy in the tenths of millimeters. The virtual models can be used to record the petroglyphs and to detect even very small changes to the rock art that may occur over time.

Timothy P. McCleary (Little Big Horn College, Montana) (Contributed Paper)

Baa'ichiichiwaau: Crow Indian Narratives of Rock Art

Rock art of the Yellowstone Valley is greatly valued by Crow Indians. Contemporary Crow people interpret rock art by drawing on their memories of what the symbols mean individually and then within the composite image. The marking devices that appear in rock art were the only forms of writing for historic Crow people. Even though there were a number of images an artist chose from to depict biographic or historic information, the meaning of the message was through its oral narration, its baa'ichiichiwaau, retelling, as Crow people term historical recitations. This paper will discuss some rock art baa'ichiichiwaau told today.

Carolynne Merrell (Archaeographics, Idaho) and James D. Keyser (Oregon Archaeological Society) (Poster)

"Getting It Right": Accurate Recording of Plains Biographic Art

Accurately recording and deciphering pictographs and petroglyphs is always a challenge for rock art researchers. It is most essential at Great Plains biographic rock art sites where crucial definitive details must be examined for accuracy. At these sites every nuance is evaluated for its possible meaning. Working with over a thousand elements at Bear Gulch, each tracing, note and photo had to be compared, evaluated, and re-evaluated based on details that may become evident at different times during the documentation process. Photos and tracings in hand, with hand lens and mirror, multiple pairs of eyes scrutinize the pictographs and incised petroglyphs to attempt an accurate identification of the elements where every detail has significance.

Lynda McNeil (University of Colorado, Boulder) (Contributed Paper)

Symbolic Recurrence in Rock Art: Evolutionary Psychologists on Memory-enhancing Strategies

An unresolved issue in rock art studies concerns how individuals living in social groups remember, preserve, and transmit core beliefs (myths) intergenerationally. This paper gives an overview of the most prevalent approaches in rock art studies to date that attempt to answer this question: theories involving human consciousness, Jungian archetypes, and altered states. In contrast to these theories, the paper will present cutting-edge research in Evolutionary Psychology on the memory-enhancing strategies that account for the recurrence of symbolic representations across millennia, using as an example climbing/standing bears depicted in rock art in distant cultural contexts. [This is a summary of completed research to be published in *The Journal of Cognition and Culture* (UK) in 2007.]

Mark Mudge (Cultural Heritage Imaging, California) and Carla Schroer (Cultural Heritage Imaging, California) (Contributed Paper)

Simple, Low-cost Reflection Transformation Imaging Documentation Techniques for Rock Art

We will demonstrate a set of new, simple, low-cost reflection information capture techniques for rock art. These techniques are easy to learn and may be used without the presence of a computer imaging technologist. The acquired data contains robust information about the rock art's 3D shape and surface properties. This information can build dynamic, interactive, Reflection Transformation Images (RTI) capable of mathematical enhancement and rendered in a variety of ways to disclose features that are difficult or impossible to see through direct physical examination. Through the use of newly developed tools, the captured 3D surface information permits automatic generation of drawings.

Tommy Noble (US DOI, Bureau of Land Management, National Science and Technology Center) and Neffra Matthews (US DOI, Bureau of Land Management, National Science and Technology Center) (Contributed Paper)

a New Look at Capturing Detailed 3D Images of Rock Art: Advances in Close-range Photogrammetry

Virtual Heritage is an emerging discipline that focuses on producing digital re-creations of historic and prehistoric resources. These full-color, 3D interactive re-creations provide an opportunity to view, study, interpret, and understand the past in ways not possible

from 2D images and flat maps. A basic component of this discipline is virtual reality, which uses geometric descriptions, based on empirically captured point clouds and an overlay of photographic textures. Advances in commercially available photogrammetry software, high resolution digital cameras, computers, and supporting image processing tools are now able to capture point clouds and registered textures with the quality, reliability, and authenticity necessary for scientific cultural heritage use. These techniques elevate the camera from simply a device for capturing images to a virtual surveying and data collection instrument. The skills needed to capture the necessary imagery are easily learned as is developing a level of proficiency in processing the data. Thus, these abilities expand the realm of successful 3D data acquisition and processing outside the limits of the photogrammetric professional.

Erica Olsen (Graduate student, Archives and Records Management Program, Western Washington University) (Poster)

An Archivist Looks at Rock Art

In my poster, I will propose a view of rock art as indigenous archives. Archaeologists and tribal representatives consider some rock art sites records of shaman's visions. Rock art helped the shaman remember his transactions with the spirit world. Such sites meet key archival criteria: they are the natural result of activity and the recorded memory thereof. An archival view of rock art expands our model of archives to include indigenous graphic records. My poster will present archival principles and demonstrate their applicability to rock art, using an interdisciplinary approach drawing on archival theory, rock art studies, and tribal perspectives.

George Poetschat (Oregon Archaeological Society) and James D. Keyser (Oregon Archaeological Society) (Contributed Paper)

Bear Gulch: 50 Years Later

The 2005 Project focused on recording the nearly pristine rock art images on the limestone cliffs of Bear Gulch, located on private land in central Montana. This site contains over 2200 images including 750 Shield Bearing Warriors. Butchered bison bones have also been found just below the valley surface. The 2007 Phase 2 Project involves use of Ground Penetrating Radar and test excavations, dating of charcoal pictographs, and recording similar rock art at nearby Atherton Canyon. Bear Gulch and Atherton Canyon contain a wealth of information that will undoubtedly lead to more specific studies about the prehistoric cultural use in this area of Montana.

Melissa M. Ray (University of Montana) (Contributed Paper)

Shield Bearing Warriors of Bear Gulch: Statistical Relationships and Associations

Is there an association of images and symbols inherent in prehistoric warrior rock art? I am seeking the possibility of a syntactical structured relationship between shield bearing warriors and their appendages through analysis of Bear Gulch Pictographs, located in central Montana. Association of symbols in this tradition holds the potential to reveal information about prehistoric warrior identity and places of power. Religion and warfare were integrated into many aspects of Plains Native American life and certainly influenced the production of rock art. What will statistical analysis reveal about the societies that left this rock art tradition?

Marie R. Richards (University of Iowa) and Grant S. McCall (Tulane University) (Contributed Paper)

Exploring Spatial Variation in Rock Art Site Composition at Ndedema Gorge, South Africa

This paper uses computer-based statistical and spatial analysis techniques to examine variation in the composition of rock art sites in the Ndedema Gorge, South Africa. We find clear patterning concerning the distribution of rock art on the landscape, and this patterning suggests three types of rock art sites: (1) Large concentrations of rock art at occupation centers, (2) large concentrations away from occupation centers, and (3) small, isolated rock art sites on riverside boulders and low-hanging rock shelters. We argue that this pattern offers important information concerning ritual use of the landscape and the social construction of religiously significant places.

E. Gene Riggs (Cochise College, Arizona) (Contributed Paper)

Cerros de Trincheras, Hillside Terraces and Rock Art

Rock art is often present at cerros de trincheras—hillside terrace sites. Four such sites will be examined, two in northwest Chihuahua, and one each in southeast Arizona and southwest New Mexico. The presence of rock art at a site does not imply connection to or association with the inhabitants who constructed the terraces. The makers of the rock art could have preceded, come later, been contemporaneous with, or been some of the trincheras-building people themselves. However, in certain cases the rock art elements, iconography, and style may indicate cultural affiliation with a specific prehistoric group or groups.

Lisa Ripps (Oregon Archaeological Society) and James D. Keyser (Oregon Archaeological Society) (Contributed Paper)

Bear Gulch: Birds in Ceremonial Tradition Art

Bear Gulch has more illustrated birds than any other Northern Plains rock art site. Of the 34 birds recorded in our 2005 fieldwork, we have identified members of five different orders and two therianthrope bird-human confections. Passerines are most common at the site, and include six corvids identified by various morphological traits. Sage Grouse and wading birds (cranes, herons) are also common, and ducks and raptors are each represented by three examples. Birds are drawn as shield heraldry four times, and another is a shield bearer's bird bundle, represented by the body tied in his hair and a beak work as his mask.

Kendra Rodgers (ICI Services, Fort Carson-DECAM) and Lawrence Loendorf (New Mexico State University) (Contributed Paper)

Bear Dance: A Ceremonial Rock Art Site in Southeast Colorado

The bear is a powerful figure with numerous roles among Native American groups. Constellations to puberty initiation rites are explained ethnographically as related to the bear and its actions. Bear veneration is linked to a wide-range of man's interactions or purposeful avoidance of bears. Bear Dance, a new site in Southeast Colorado, offers a complex panel hinting to the ceremonial ties of rock art, landscape, and lifeways with the bear. By using Caddoan ethnography it is possible to identify various aspects of Caddoan shamanism in the panel.

Marvin W. Rowe (Department of Chemistry, Texas A&M University, Qatar) (Contributed Paper)

River of a Thousand Lingas

About 15 km from Siem Riep, Cambodia, home of the world-renowned temple complex, Angkor Wat, lies a river in the mountains. For a stretch of approximately 100 meters, the river bottom is covered by about a thousand carvings of lingas (Hindu phallic symbols). In Hindu belief, water running over a linga blesses the water. This River of 1000 Lingas drops over a small waterfall before it flows out onto rice fields. In addition to lingas, there are additional carvings of Hindu deities. The river runs from about 16 meters deep down to a dry bed, depending on the season.

David Sucec (BCS Project, Utah) (Contributed Paper)

Intimate Relations: Associations of Animal, Bird, Snake, and Plant Images with Spirit Figures in Barrier Canyon Style Rock Art

At some Barrier Canyon style rock art sites, representations of quadrupeds, birds, snakes and plants are seen in close association with spirit figures. Whether bird, snake, or quadruped, they are seen hovering over the heads, off the shoulders, or flanking certain spirit figures. Some can also be seen moving toward and around spirit figures. In their apparent intimate association, these compositions differ significantly from the animal/anthropomorph compositions that are seen in other Utah rock art styles and exhibit a remarkable similarity to the images of some hunting/gathering cultures such as the Huichol and Inuit—with representations of shamans and associated zoomorphs identified as "spirit helpers."

Linea Sundstrom (Day Star Research, Wisconsin) (Contributed Paper)

Buffalo Gals: Images of Women in Northern Great Plains Rock Art

Rock art from the Black Hills and surrounding areas depicts women in several roles from hunting to seeking spiritual assistance to falling victim to enemy warriors. A careful study of rock art imagery, informed by ethnography and oral tradition, fills in many gaps in our knowledge of the activities and status of women in precontact days. An early style shows women assisting in communal game drives. Later rock art shows women in postures of prayer related to women's concerns such as fertility.

Ryan Ward Swanson (Washington State University) (Poster)

Petroglyphs & Ginger-Snaps: Rock Art on the Briggs & Ellis Ranch in Southeastern Montana

The Briggs & Ellis Ranch, near Custer, Montana, is a unique location to examine multiple styles and traditions of Northern Plains rock art. Located near the confluence of the Bighorn and Yellowstone Rivers, the sandstone bluffs on the ranch contain a variety of prehistoric petroglyphs that include examples of the Ceremonial and Biographic traditions. The author photographed and recorded many of these panels during annual visits to his paternal grandparents (the owners of the B&E Ranch) over the past 25 years.

Michael W. Taylor (Oregon Archaeological Society), James D. Keyser (Oregon Archaeological Society), and Phillip Cash Cash (Oregon Archaeological Society)

The Roles of Women in Columbia Plateau Rock Art

Although the Columbia Plateau region has long been known as an area where access to the supernatural is largely egalitarian, no one has ever carefully summarized the ethnography relating to women's vision questing and shamanism-and thus ultimately their role as makers and users of rock art. The authors conducted a detailed survey of Columbia Plateau ethnography and oral tradition both to document women's shamanistic practices and to find instances where women were known to (or were likely to) have produced rock art. The results support a basically egalitarian system, albeit with differences noted for various cultural groups within the region.

Steven J. Waller (Rock Art Acoustics, California) (Contributed Paper)

Echo Spirits Who Paint Rocks: Memegwashio Dwell Within Echoing Rock Art Site EiGf-2

The EiGf-2 rock art site in Quebec possesses notable acoustic properties, including distinct echoes (D. Arsenault). Algonkian ethnography describes this site as a dwelling place for Memegwashio: spirit creatures held responsible for producing both echoes and rock art. Acoustic experimentation became the traditional proof of the existence and residence of Memegwashio in rocky landscapes: parents advised children to shout; the children could then hear Memegwashio shout in reply (Vincent Bacon, F. Parcuret). Memegwashio seal their magic portals with hand prints of blood, showing where they touched the rock as they "closed the door" before disappearing into their cliff dwellings...