



E.S.R.A.R.A. NEWSLETTER

Newsletter of the Eastern States Rock Art Research Assn.

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Newsletter Editor: Carol Diaz-Granados, Ph.D.
7433 Amherst Avenue, St. Louis, Missouri 63130-2939
PH:(314)721-0386/ E-mail:cdiazgra@artsci.wustl.edu

E.S.R.A.R.A. ACCEPTED AS 30TH IFRAO MEMBER

It was announced in a communication from Dr. Robert G. Bednarik, Australia, that E.S.R.A.R.A.'s request for inclusion in the International Federation of Rock Art Organizations has been granted through a majority vote! Discussions on the formal organization of E.S.R.A.R.A. began unofficially at the International Rock Art Congress in Flagstaff, May-June 1994. At the urging of Dr. Fred Coy, Carol Diaz-Granados attended the IFRAO meeting as ESRARA representative and made our wishes for inclusion known at that time. Almost a year passed before discussions were resumed and an interim officers' slate set up and statement of purpose framed. As the 30th member of IFRAO, ESRARA will serve as a communication station for eastern states rock

art researchers-- It will serve as a forum for discussing methods and problems unique to the broad eastern area, an information exchange, the dissemination of publication news, book

reviews, preservation concerns and ideas, and meeting information.

1996 OFFICERS

Dr. Fred Coy
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Dr Charles Faulkner
Vice President
Dr. James Swauger
IFRAO Representative
Dr. Carol Diaz-Granados
Newsletter Editor-
Spring Issue
Dr. Deborah Morse-Kahn
Summer Issue

EASTERN STATES ROCK ART CONFERENCE AT MACHIAS, MAINE MAY 24-26, 1996

ESRARA is meeting again -- this time in Machias, Maine. There is a fine line-up of papers and field trips planned to petroglyph sites (details inside). Our last meeting, April 9-11, 1993, at Natural Bridge State Park, KY was a huge success. A publication of papers from that meeting is going to press through our western counterpart, ARARA. Volume editor and meeting co-organizer, Dr. Charles Faulkner, kindly handled all the logistics to pull the publication together. We will inform readers when it is ready.

ESRARA MEMBERSHIP CURRENTLY AT 55 AND GROWING. SEND YOUR NAME AND NEWS ITEMS FOR THE NEXT NEWSLETTER TO SUMMER EDITOR, Deborah Morse-Kahn, 3337 Girard Ave. So., Minneapolis, MN 55408. BE SURE TO INCLUDE NAMES OF OTHERS WHO MIGHT BE INTERESTED IN JOINING. FIRST YEAR MEMBERSHIP IS FREE!!!

In this issue:

***Three new Mud Glyph Caves discovered!
Report on 1995 Internat'l Cong. in Italy,
News from MN, KY, MO, IL, PA, etc., May
Meeting in Maine-Registration forms,
Swauger about to publish again! Rock Art
Symposia at SAAs in New Orleans, and
and more!***

SWAUGER: AT IT AGAIN WITH A PLETHORA OF PUBLICATIONS!

Prolific author, James L. Swauger, has been researching and writing and has the following publications in press through the Kentucky Heritage Commission: The Petroglyphs and Pictographs of Kentucky (with Fred E. Coy, Jr.; Thomas Fuller; and Larry Meadows); and The Petroglyphs and Pictographs of Six New England States. In the final stages of preparation are The Petroglyphs and Pictographs of Pennsylvania. Well along is, The Petroglyphs and Pictographs of Maryland, New Jersey, and New York; The Petroglyphs and Pictographs of Virginia and West Virginia; and Dr. Swauger has recently begun Designs on Petroglyph and Pictograph Sites in Thirteen Northeastern States.

ROCK ART SYMPOSIA AT THE 61st ANNUAL MEETING OF THE SOCIETY FOR AMERICAN ARCHAEOLOGY, APRIL 10-14 IN NEW ORLEANS

Thursday morning and afternoon, April 11, two rock art symposia will take place at the SAA's Annual Meeting at the New Orleans Marriott. The morning symposium is entitled IN STEWARD'S SHADOW: ICONOGRAPHY, NEUROPSYCHOLOGY, LANDSCAPE & GENDER IN ROCK ART. The Thursday afternoon symposium is entitled, RECENT ADVANCES IN REGIONAL PHYSICAL SCIENCES AND MANAGEMENT STUDIES OF ROCK ART. General sessions/symposia on other days include: Archaeology of Eastern North America, Eastern North America Method and Theory, Eastern Archaic and Woodland Archaeology, Trend and Tradition in the Lower Illinois Valley, and lots more. The New Orleans Marriott is located on the edge of the French Quarter (Canal and Decatur streets). Additional information can be obtained by contacting the SAA staff by phone at +1 202/789-8200, by fax at +1 202/789-0284, or by e-mail at meetings@saa.org.

Rock Art Symposium presented at Southeastern Archaeological Conference in Knoxville

The highlight of the 52nd Annual Meeting of SEAC (November 8-11, 1995 at the Knoxville Hilton Hotel) for rock art enthusiasts, was the symposium organized by Jean Allan.

A very good crowd turned out to hear talks that included: A Rock Art Primer (F. Coy); Rock Art Motifs in North Alabama (B. Henson); Southeastern Ceremonial Complex Iconography in Alabama Rock Art (J. Allan); Tennessee Pictographs (N. Honerkamp); Native American Rock Art in Western North Carolina (D. G. Moore & A. S. Ashcraft); Georgia Petroglyphs (T. Hudson); Archaeological and Stylistic Interpretation of the Narrows, Western Arkansas (J. Hilliard); Female Motifs and Myth in Missouri Petroglyphs (C. Diaz-Granados & J. R. Duncan); An Overview of the Rock Art of the Shawnee National Forest of Southern Illinois (M.

Wagner & M. McCorvie); and Repeatability: A Central Concept in Rock Art Conservation and Management (J. Loubser). The Discussant was C. H. Faulkner. The symposium was well-received and plans are in the works to do another rock art symposium at the next SEAC meeting in Birmingham, Alabama next fall. If you are interested in submitting a paper for this symposium, call:

JEAN ALLEN

(205)489-5111

or write to her at:

Route 13, Box 399E

Jasper, AL 35501



MINNESOTA COMPLETES SURVEY OF 26 SITES IN SOUTHEAST REGION

Reported by Deborah Morse-Kahn

A total of 26 rock art sites, were documented over nine weekends in Wabasha, Winona, and Houston Counties in the state. The survey took place between mid-September and mid-December of last year and yielded associated habitation sites, mounds, etc. Additional work is being planned.

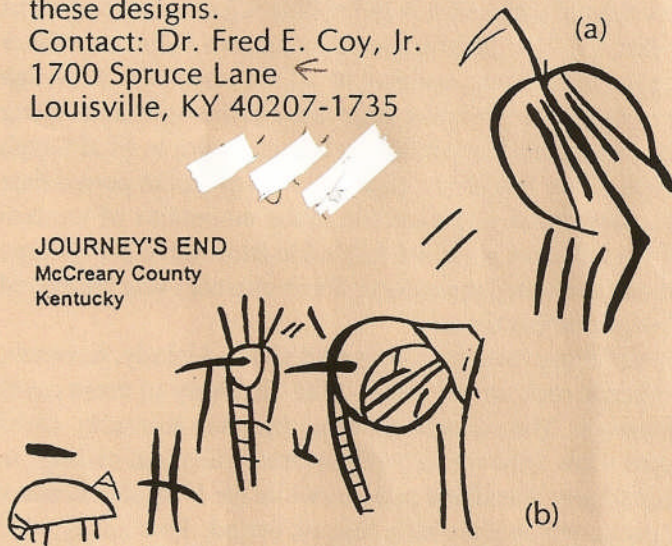
NEW SITES REPORTED IN KENTUCKY

Reported by Fred E. Coy, Jr.

Randy Boedy, of the Stearns Ranger District, Daniel Boone NF, found a four-panel petroglyph site in McCreary Co. near the TN-KY border. They call it the Journey's End Site. The petroglyphs were in a small, dry shelter at the base of a sandstone cliff. Included in the carvings were a bird figure (a) and some unusual forms (b) adjacent to a quadruped (at left). These figures differ from the other sites recorded in northern and central Kentucky. The recorders would welcome any comments from readers on the style of these designs.

Contact: Dr. Fred E. Coy, Jr.
1700 Spruce Lane
Louisville, KY 40207-1735

JOURNEY'S END
McCreary County
Kentucky



STATE ORGANIZATION FORMING WISCONSIN ROCK ART ASSOCIATION

A new rock art association has just been formed in Wisconsin, the WRAA. In the fall of 1994, a task force was assembled by the State Historical Society of Wisconsin in response to the shocking vandalism that occurred at Gottschall Rockshelter. The attempt to remove one of the pictographs, damaging several others, served as a wakeup call to many archaeologists and the public. The task force convened to examine a number of ways to take an active and unified roll in protection, preservation, and public education. Task force recommendations included the development of an organization to promote rock art in the state. WRAA is registered as a member of ARARA, and welcomes anyone with an interest in Wisconsin rock art. For more information, please contact:

Cindi Stiles, State Region 2 Archaeologist
Nicolet and Chequamegon National Forests
68 South Stevens, Rhineland, WI 54501
715-362-3761

E-MAIL LINE FOR ROCK ART ENTHUSIASTS AVAILABLE

For those of you who have e-mail, you might want to login to the rock art network. Discussions ensue on such topics as: atlatis in rock art, cup holes, electronic imaging of rock art, etc. Currently about 280 members. No charge to login: send this message: "subscribe rock-art (your first name, your last name) to listserv @asuvm.inre. asu.edu

Report from IOWA

Lori Stanley continues her survey in NE Iowa. State Archaeologist, Bill Green, invites interested rock art researchers to visit the OSA at the U. of Iowa to review existing documentation, site records, etc. Materials include the original charcoal tracings of NE IA petroglyphs made by Marshall McKusick in the 1960s -- Green asks if someone would be interested in scanning/digitizing them, along with other Midwestern images, and making them available on CD/Web site. Their OSA Web site could be used for this.

(*International Congress at Turin, continued from page 12*) unaltered rock surface and in the grooves of the petroglyphs indicated much more recent dates. He also made observations of the geological context of the rock art sites (designs engraved on relatively soft schist, locations near bottom of V-shaped (i.e. readily eroded valleys) that would seem to support the recent AMS dates. His contextual analysis was attacked, perhaps rightly. (My own observations of recent appearing flood plains in some parts of Maine indicate the flood plain in question most probably dates back 10,000 or more years.) A resolution of the inconsistency between his dates and the clear stylistic affinities to Paleolithic art in the specific case of the Coa Valley engravings will have to wait another day. **Mark Hedden**

Research Report #1
THREE NEW "MUD GLYPH" CAVES DISCOVERED
IN TENNESSEE AND VIRGINIA

by Charles H. Faulkner, University of Tennessee, Knoxville

The discovery of Mud Glyph Cave in Tennessee in 1980 and subsequent publication on this site in 1984 brought attention to archaeologists of a previously unknown type of rock art in the Eastern Woodlands. The study of this cave revealed that Native American artists sometimes decorated clay deposits in the dark zone of deep caverns with trailed and incised lines in abstract and naturalistic designs. Several of the naturalistic designs were classic Southern Cult motifs.

While some researchers might question the inclusion of mud glyphs as a form of rock art, the fact that the same techniques were used to produce these drawings as those used in decorating rock surfaces (trailing and incising), and the similarity of motifs obviously makes these two art forms closely related. In fact, the underlying rock covered with a thin veneer of mud or silt probably enhanced the decoration of rock walls in these caves. It is not surprising, then, that Mud Glyph Cave is not an isolated archaeological phenomenon.

By 1989 three more mud glyph caves were reported and studied in Virginia and Kentucky. In addition to an accumulating inventory of motifs and design elements, torch charcoal from the then known four glyph caves were radiocarbon dated providing a chronological placement of this underground activity. Drawings in Tennessee's Mud Glyph Cave and William Cave in Virginia were dated to the late prehistoric Mississippian period between A.D. 900-A.D. 1700, while glyphs in Roger's and Crump's caves in Kentucky were decorated in the earlier Early Woodland and Late Archaic periods. At that time it was predicted that glyph caves would continue to be found as sport cavers, who first reported these four caves and assisted in their archaeological study, became increasingly aware that this artwork was not modern graffiti but the renderings of prehistoric artists.

This prediction has been realized with the discovery of three additional mud glyph caves in Tennessee and Virginia since 1993. A preliminary study of these glyphs, largely trailed meanders with fingers and the end of cane torches on the silt-covered ceiling of this cave 800 feet from its' mouth, was conducted by the author in June, 1994. Cane torch charcoal embedded in the ceiling adjacent to the glyphs produced a radiocarbon date of 970 B.P. +/- 60 years. Marble Bluff Cave in the eastern Tennessee River Valley was discovered by a professional archaeological team during a survey of a TVA reservoir. Although most of the glyphs appear to be a palimpsest of curvilinear meanders over large areas of the walls and ceiling of this recent graffiti-damaged cave, some Southern Cult drawings similar to the repertoire in Mud Glyph Cave also seem to be present. Torch charcoal from the floor has produced a late Mississippian period date of 260 B.P. +/- 50 years. The most recently discovered mud glyph cave is in the mountains of western Virginia. Visited by the author in October, 1994, this small cave is similar to Marble Bluff Cave in that large areas of the walls are covered with a myriad of trailed and incised meanders. Torch charcoal was recovered for radiocarbon dating, but no dates have been obtained at this time.

Additional research is planned for all three of these recently discovered sites. Already, however, their importance to our knowledge of Eastern Woodlands rock art is evident. The discovery of these caves indicates they are even more numerous than first believed. The radiocarbon dates from the Kentucky caves provide evidence that prehistoric Native Americans were drawing on mud-covered walls and ceilings in remote cave passages as early as the Late Archaic and Early Woodland periods, while the 17th-18th century date from Marble Bluff Cave suggests this activity continued until the early historic period. Four caves, Mud Glyph, Williams, Warsaw, and Marble Bluff were decorated during the Mississippian period, suggesting that this activity peaked during this late prehistoric time period. Regarding this Mississippian artwork, we are also accumulating an extensive inventory of abstract/geometric designs and naturalistic Southern Cult motifs produced by Mississippian artists in this soft and pliable medium during an approximate 800 year span in the southern Appalachians.

**EASTERN STATES ROCK ART CONFERENCE
MAY 24TH-26TH, 1996
UNIVERSITY OF MAINE AT MACHIAS, MAINE**

The third Eastern States Rock Art Conference will be held May 24, 25, 26, on the campus of the University of Maine at Machias. It includes participants from the Eastern and Central U.S. and Canada*. Guided tours of prehistoric Algonkian petroglyph sites on Machias Bay, estimated to date from 3,000 B.P. to the Contact Period (ca. A.D. 1630) are planned for Friday morning, May 24, and for Sunday morning, May 26. Saturday, May 25, will be given to presentations on rock art research at the UMM Science Building with informal meetings and discussions Friday and Saturday evenings. A gathering called a "Talk About" with a group of Maine's Native Americans will take place on Sunday at 2:00 to discuss how rock art is perceived by different groups. It should be interesting!

GENERAL INFORMATION:

How to Get to Machias:

Travel by air is most convenient to Bangor (85 miles from Machias) where rental cars are available. Commercial airline flights (13 daily) into Bangor International Airport are currently made by Delta (& Business Express), Continental and USAIR (USAIR Express). A commercial shuttle bus, West's Coastal Connection, runs once daily (leaving the Concord Trailways terminal at 3:10 PM). Taxi service is necessary from the Airport to the Concord Trailways terminal, a distance of about 2 miles. Tickets for West's are purchased at Trailways. The cost one-way is \$14.00. West's bus arrives in Machias at about 5:30 PM and the bus will go directly to Dorward Hall on request.

For the return trip, West's leaves the Irving Mainway Station at 11:00 AM and arrives at the Trailways terminal at 1:15 PM.

More time consuming but less expensive connections can be made by air travel to Boston's Logan Airport and then via bus (Concord Trailways to Bangor and West's Coastal Connection to Machias). A Concord Trailways bus leaves Logan Airport daily at 9:15 AM that will connect with West's in Bangor at 3:10 PM.

Space reservations and inquiries may be made with West's by calling 1-800-596-2823.

By car from points south and west, take Route 495 in Massachusetts; then I-95 to Bangor; Route 1A to Ellsworth and Route 1 to Machias. The University is immediately on US 1 as you come into Machias. An alternate, more scenic route would be to take I-95 to Augusta, Route 3 from Augusta to Belfast and Route 1 to Machias.

*As of this date, we have 14 papers scheduled for presentation. They include: Daniel Arsenault-Quebec Rock Art, Fred Coy-Angel Gabriel's Footprints (MO-IN), Jack Hranicky-Prehistoric Sun Circles, Ceremonies, and Rock Art in Virginia, Iloilo Jones on Pere Marquette in Illinois, Deborah Morse-Kahn-Mounds and Rock Art in SE Minn-esota, Edward Lenik-Petroglyphs of Great Falls, Jacob Enslin-Archaeology of Holmes Point, Machias Bay, David Lowe-Update on Wisconsin Petroglyphs and a case of vandalism, Alan Watchman-Dating rock paintings in western Maine, Carol Patterson-Rudolph-Rock Art as Sign Language in the Southwest, and a few still pending.

When to Arrive

Field trips to the Machias Bay petroglyph sites are planned for Friday and Sunday mornings, weather permitting. Those who wish to participate should indicate their intentions on the form enclosed. Friday participants should plan on arriving at Dorward Hall Residence by 9 am. Early arrivals may check in at Dorward Hall between 5:00 and 9:00 pm on May 23rd.

Necessary Gear

The field trips involve walking on sand, rocks, mudflats and, occasionally, slippery seaweed. The wind coming off the ocean can be chilly in late May. Dress appropriately, preferably with layers that can be peeled off or put on as needed. Appropriate boots or waterproof shoes are recommended.

Accommodations

Meals at the cafeteria and inexpensive rooms in Dorward (Residence) Hall will be available on the UMM campus.

Room rates: Single room, \$15.75 per night; Double room, \$17.85 per night.

To reserve rooms write:

Director, Office of Special Programs
University of Maine at Machias
9 O'Brien Avenue
Machias, Maine 04654
e-mail: jhinson@acad.umm.maine.edu
tel: 207-255-3313 Ext 289
fax: 207-255-4864

Cafeteria Rates:

Breakfast: \$4.20 Lunch: \$5.25 Dinner: \$6.30
(Bag Lunches for Field Trips Available @\$5.50 ea.)

A gala lobster dinner* at \$15 per person is planned for Saturday, May 25th, if there are enough people interested. Please indicate if you are and your food preference on the registration form.
(* Vegetarian fare will also be available.)

A number of good restaurants and motels featuring off-season rates are located in the nearby Machias (List available on request).

1996 EASTERN STATES ROCK ART CONFERENCE

---Registration Form---

Name of Registrant: _____

Address: _____

Street City State Zip

Name(s) of Accompanying Person(s): _____

Please check: Presenting paper? Yes No

Taking meals other than lunch
on 5/25/96 at the UMM Cafeteria?* Yes No

Attending Gala Lobster Dinner?
(Vegetarian only, please) Yes No

Field Trip: Friday Yes No
Birch Point Holmes Point

Sunday Yes No

Boat Trip to Hog Island
(Sunday Only) Yes No

The advance registration fee is \$13. Regular registration at Machias will be \$15. Make checks payable to "Eastern States Rock Art Conference" or ESRAC. Special charges (Gala Lobster Dinner, Hog Island Trip, Bus to Sites, if necessary) should be paid at the Conference site.

*The UMM staff needs a ballpark figure on those who expect to eat at the Cafeteria to assist in planning.

For further information, write or call:

Mark Hedden
P O Box 33
Vienna, Maine 04360

or

Ray Gerber
St. Joseph's College
Windham, Maine 04062

207 287 5726 (Office)
207 293 2075 (Home)

207 892 6766 (Office)

Field Trips to Machias Bay Petroglyph Sites

Guided tours of the most important Machias Bay petroglyph sites will be arranged for Friday morning and Sunday morning when the tide will be low. The three sites are described below. One site, Hog Island, involves a special charge to cover the cost of a 40 minute boat trip as well as some physical agility reaching shore from a lobster boat. To enable adequate logistical planning, please indicate your preferences on the registration form.

Birch Point-Main Ledge and Outer Ledge:

Site 62-1, also known as Clark's Point, is located on the west shore of the Machias River estuary. The site was initially reported by Garrick Mallery in 1893 and is the most accessible of the 3 major concentrations of petroglyphs. Mallery apparently saw only the most recent designs on the upper (western) end of the Main Ledge. These are the best preserved and include a unique series of large moose representations (Style 6). Shaman forms (Styles 5 & 6) can be traced eastward on the lower slope of the whale-shaped rock outcrop until the forms are virtually obliterated by spalling and erosion near the lower end. Earlier glyphs with Styles 1-3 shaman forms can be seen on a separate bedrock outcrop now separated from shore by a tidal channel. At low tide, the channel mudflat can be crossed on foot. Some caution is necessary in walking on seaweed covered ledge which can be slippery. Site 62-1 affords a sample of all the stylistic periods represented in Machias Bay and is the most readily accessible site.

Holmes Point:

Site 62-8, on a rise of bedrock below a dramatic headland on the east shore of the Machias estuary, contains a variety of the middle range of Machias Bay petroglyphs which appear to represent shamans and associated spirit forms (Styles 3-6). The site can be reached by a hike of about 3/4ths of a mile along the gravel shore.

Hog Island:

Hog Island is a low rise of bedrock located along a now drowned eastern shoreline of the Machias River estuary. The island contains several scattered eroded outcrops with petroglyphs and a major concentration (Site 62.24) along the SW shore which is only visible at low tide. This concentration includes some of the best examples of early petroglyph Styles 1-4 that survive. A 40 minute boat trip and some agility in climbing in and out of a lobster boat onto a beach or shallow water will be necessary. A full boatload of 6 persons will enable a special fee of \$16 per person for transportation to and from Hog Island.

Depending on the number of participants, a small fee may be necessary for bus transportation to and from the UMM Campus to the petroglyph sites. Please indicate below the sites you would be interested in visiting and preferred dates. This will enable us to determine the most efficient arrangements. We will do our best to accommodate.

Report on an International Rock Art Congress at Turin, Italy from 8/30 to 9/6/95.

by Mark Hedden

The NEWS 95 International Rock Art Congress, hosted by the Centro Studi E Museo D'Arte Preistorica (CeSMAP) in Turin, Italy, served as the 1995 meeting of members of the International Federation Rock Art Organizations (IFRAO). I participated, accompanied by my wife Carol, who attended and reported on her own on many of the symposia that were running simultaneously. Our attendance was necessarily selective. Neither of us are fluent in Italian or French, languages other than English that were used during the presentations. There were valiant attempts by speakers to present material in heavily accented English and occasional fast paced Australian remarks that just went by us. More than once we had to conjecture the main points from the slides presented and abstracts in English. During breaks, however, the participants generally were open, friendly and anxious to share what they had to offer over cappuccino, wine and other excellent Italian delicacies. We made new friends and renewed old acquaintances among the members from Portugal, Australia, France, England, Belgium, India, Canada and the U.S. I presented a paper on the methodology used to date the petroglyphs at Machias Bay, Maine that was well received. The papers reported on below were interwoven with a dramatic ongoing conflict between a number of Portuguese archaeologists and hired foreign experts from Australia and America on the dates for recently discovered engraved petroglyphs with Paleolithic stylistic traits in the Coa Valley of north-eastern Portugal. I will postpone discussion of these issues for the moment.

Among the more notable presentations that we were able to take in was one by a Belgium, Marcel Otte, on musical instruments known or likely to have been used during the Paleolithic and the musical properties of caves where the Paleolithic rock art appeared. Otte, of Liege University, found that in caves he has tested, the areas with the most resonant qualities for bone whistles, panpipes and the rattling of sticks on corrugated surfaces, stalagmites or stalactites were also the areas where rock art was concentrated. In one case, his analysis was supported by the discovery of a broken panpipe; in another, by the find of a bone whistle.

There were three fine presentations by Carol Patterson-Rudolph of Columbia-Washington University in Winslow, Washington State. Patterson-Rudolph has worked with native American informants towards relating rock art to ethnography and oral traditions over the past 20 years. She spoke on the significance and importance of song in every aspect of Native American life. She reviewed ethnographic, linguistic and rock art evidence for the origin of the Yellow Woman (maize) ritual in ancestral Keresan pueblo villages dating to 1000 A.D. in Colorado before deteriorating climate conditions forced a movement southeasterly into New Mexico.

Carol Patterson-Rudolph also made a separate presentation for Carol, myself and Alice Tratebas on interpreting late Pueblo and Shoshone rock art as sign language and gave examples of how she was enabled by directions in the signs to determine the nature of the trail ahead and determine where waterholes were located, etc.. Among the Shoshone bands (often identified by the term "sheep-eaters") the depiction of one or several mountain sheep may represent "people" and specific attributes or gestures represented in the petroglyphs have standard meanings that can be interpreted by native informants. Her insight into the probable function of these petroglyphs is consistent with my own impressions of the often rather sketchy and mundane aspects of many Late Prehistoric petroglyphs from the Great Basin and Columbian Plateau where

Shoshone bands were prevalent. In these areas, many "sheep" petroglyphs are represented with awkward and unnatural postures, such as feet turned backward, or body shape and body angle (e.g. tilted sharply upward) or in rather graceless static postures confronted by a gesturing anthropomorph. Each of these has the potential to be interpreted within the context of the actual site as sign language expressions. For example, a trail which leads to a dangerous precipice or other dead end might have a sketchy linear bodied sheep confronted by an anthropomorph with arms straight out (meaning "stop"). Scattered peck marks on the body of a sheep may mean "wet" as in a marsh. A sheep with a saucer-shaped body line indicates a descent ahead.

Each interpretation needs to be carefully correlated with the actual environmental context of the site where they are located. Patterson-Rudolph is in the process of developing a basic symbol chart that will enable the field investigator to test various "readings" of the petroglyph(s) within a specific context. Her carefully considered analyses have important implications for interpreting rock art of any period. We both agreed that the term "rock art" is misleading and has about as much utility in determining the probable functions of the making of images on rock as the term "ceremonial object" does, or once did, for the field archaeologist.

Elanie Moore, of Citrus College, Glendora, CA., made 4 presentations focussed on various aspects of the problem of obtaining accuracy in recording rock art and stressed the need for at least one person with basic training in the graphic arts for each field party recording rock art. In one presentation, she gave many painfully hilarious examples of errors in doing "simple" tracings. These errors ranged from details inserted because the recorder had been told that that is what they would find, poor resolution of traced images, low accuracy in color rendition. She demonstrated that the most accurate records were free-hand drawings by a trained artist.

In another presentation, Ms Moore dealt with the problems inherent in computer-enhanced imagery from the scanning of original records, storing and final "enhanced" product. "The new technologies of computer, video and stereogrammetry ...are creating misconceptions of accuracy." The major technical problems center on resolution. For example, the human eye can discern a much wider range of color than color film can reproduce. These initial limits in registering color are then compounded in digital storage and retrieval by the relatively coarse resolutions of commonly available computers. For example, with the "same" color in the figure and (rock) background, how do you distinguish between them in computer enhancement? Accurate color scales for field photography similar to those now being issued by IFRAO will help. Again, she emphasized, constant referral to original records, preferably by a technician trained in the graphic arts, is necessary to obtain reasonably accurate results. While Moore's remarks were primarily directed towards rock art recording, they should serve as a cautionary note for any archaeologist involved with computer storage (i.e. keep primary graphic records for reference).

The theme that constant vigilance is necessary while using technical devices to obtain accuracy in recording, storing and reproduction was repeated in various ways by the presentations of professional photographers. James W. Henderson of Oregon City, Oregon described a cross polarization photographic technique which decreases light scatter and surface refraction and significantly enhances faint rock painting pigments patinated by opaque mineral deposits, damaged by scratching or weathered to the point of extinction. The procedure involves

night photography using 2 strobes set at 45° to the surface and cross-polarized to the camera filter. The technique has been applied successfully to rock paintings in the Columbia River Basin.

Paul Firmhaber, who exhibited photographs of rock art in western United States and in India that are breathtaking in breadth and detail, gave a summary of his standards of work. He emphasized all the basic details the photographer must be aware of - such as the need for sharpness, no motion, clear light, camera positioned parallel to the surface with an undistorted, accurate perspective, accurate exposure and grey value determination, careful framing and awareness of light quality, color and direction (e.g. light from the north brings out blue values. A late light strengthens orange values). He also stressed the need for appropriateness to the subject matter itself. If the rock art is perceived as spiritual expression, the photographer will do well to show respect in the photograph for the sacredness of the art.

Firmhaber, Henderson and various computer specialists emphasized the need to store all photographs, particularly slides, on CD ROM disks and to use appropriate scales in the original photographs that will serve as a guide to grey and color values for computer enhancement. Placement on disks will increase the longevity of photographic records from an maximum 30 years for color slides to a minimum of 50 years for CD ROMs.

Jean Clottes presented a spectacular 2 hour slide presentation on a very recently discovered Paleolithic cave painting site (La Grotte Chauvet-Pont d'Arc dans l'Ardeche) with unique well-preserved images dated (by AMS) to ca.31,000 years before present. Faunal species represented that have not previously been recorded for Paleolithic cave art or were heretofore extremely rare include rhinoceros, spotted hyena and spotted leopards. The painters exhibited a mastery similar to Las Caux in use of perspective (foreshortening), inclusion of natural rock protuberances and recesses within animal outlines and emphasis with color to suggest plasticity as well as arrays of particular subjects (horses, rhinos) with overpainting. The last prehistoric visits to the cave seem to have taken place around 26,000 years ago. Clottes estimates that 20 years of work will be necessary to adequately report on this find.

There were many more presentations we could not attend including some we regrettably heard about second hand. Among these was a report by Chris Ehret, Professor of History at UCLA, relating rock art styles in the Sahara Desert to African language separations as determined by glotto-chronology. In a chance encounter I had with him later, Ehret asserted that in his experience the 10% word change or drift per century (which forms the basis for glotto-chronological estimates of language separations) works as Greenberg, among others, predicted for cultural groups without a written language. The rate of drift slows down as written forms of a language become established.

The Coa Valley Controversy

Recent advances in AMS dating of minute amounts of carbonaceous matter trapped in deposits above and/or below engraved or painted rock art have initiated major challenges to

accepted prehistoric stylistic sequences in many parts of the world. The recently publicized Coa Valley engravings are a case in point, though, at the Congress, the point was largely obscured and its implications for stylistic sequences elsewhere in Europe never examined in the heat of attacks on the presentations.

The roots of the conflict can be traced to a political wrangle between Electricidade de Portugal (EDP), a consortium of electric power interests in Portugal that are financing the construction of a dam in the Coa Valley that will flood the petroglyph sites, and the conservationists, culture historians and archaeologists who are supporting a moratorium on the construction of the partially completed dam. The Coa Valley produces almonds and olives on terraced hill-slopes along with some wine vineyards and has large schist quarries. As information on the nature of the petroglyphs began to leak out in November of 1994, EDP financed the hiring and logistical support for expert consultants who were escorted to the engraved panels by EDP representatives and an archaeologist from Instituto Portugues do Patrimonio Arquitectonico e Arqueologico (IPPAR). The Ministry of Cultural Affairs then leaked selective parts of the experts' reports to the effect that the petroglyphs were not Paleolithic in age.

Several Portuguese archaeologists at the Congress, led by Mila Simoes de Abreu and Joao Zilhao, argued that the Ministry of Cultural Affairs and the EDP were in cahoots and that the alleged conspiracy rendered the conclusions of the experts suspect, if not invalid. The conflict came to a head in emotional outbursts by the Portuguese against the construction of the dam at several points during the conference. Carol and I attended a few of the several presentations related to the Coa Valley petroglyphs and found that our assessments tended to lean towards whomever we had most recently heard. Neither of us doubted the basic sincerity and dedication of the investigators who made presentations. Different results were being derived from different approaches to the same body of evidence, and, instead of attempting to resolve the conflict by conference and reasoned argument, confrontations and uncalled for character assassinations and direct interruptions of data presentations by some of the Portuguese archaeologists were the rule.

Strong presentations were made by both sides. From slide to slide comparisons, the stylistic details of the faunal species present in the petroglyphs are very close to styles attributed to the Paleolithic period and are not comparable to the known styles of any later period. The argument was raised that retouching, erosion and/or contamination of the exposed petroglyphs may have altered or destroyed the expected coating of patina, leading to skewed AMS dates. However, Alan Watchman, of the consulting experts, was careful to take patina samples from the surrounding (presumably unaltered) surfaces as well. Watchman, who was hired by EDP with the highest recommendations of the Portuguese archaeologists themselves, became the "bearer of bad news" to these same archaeologists. Because of the political sensitivity of the issue and his own desire to maintain as much objectivity as possible, Watchman, among several Australian and American hired experts, stipulated that he "did not wish to speak to the press or anyone else about (his) work while (he was) in Portugal or doing (his) analyses in Canada." However, he did have contact with specific professional archaeologists who were familiar with the area. He fully expected, initially, to find data that would support a Paleolithic date. His several AMS dates of carbonaceous matter trapped in very thin developments of patina on the

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