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# La Pintura

The Official Newsletter of the American Rock Art Research Association  
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[www.arara.org](http://www.arara.org)

## ARARA 2007 Conference Field Trips Offer Intriguing Subjects

**GREETINGS FROM TERRY MOODY AND GARY HEIN**, field trip coordinators for the 2007 ARARA Conference to be held in Billings, Montana June 29 through July 2. Field trips will be offered on Friday (June 29) as well as on Monday (July 2). As you can see, we have been working long distance to organize an exciting list of field trip options, with many thanks to all who have offered their assistance. Coordination has involved working with Montana's and Wyoming's BLM Offices, Montana's and South Dakota's Forest Service, and academics as well as devoted rock art individuals to schedule field trips of varying distances from Billings, with one trip as far away as the North Cave Hills in South Dakota.

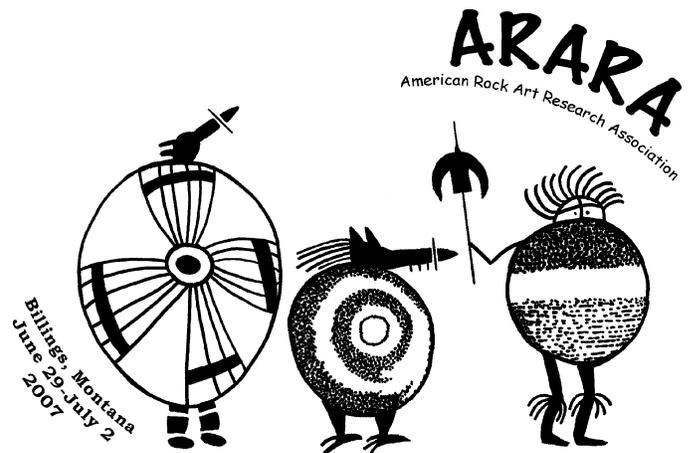
There are many routes leading to Billings; and some conference participants may choose to make the journey by the quintessential road trip. However, air travel to Billings may be better suited to some, in which case you may want to rent a vehicle to explore Montana's rich cultural resources a bit before or after the conference. To assist in planning your road trip or excursions for those who have the luxury to explore the intermountain west before or after the conference, we have researched rock art and historic sites, near and far. Places of interest that may be visited on your journey, and local to Billings, will be posted on the ARARA Web Site ([www.arara.org](http://www.arara.org)). Watch for updates on the web site and on ARARA Online.

The Field Trip Registration Form and instructions, along with summaries of field trips, were recently mailed to ARARA members as part of the Conference Information Packet. Forms and instructions are also available on the ARARA web site. Field Trip registration must be postmarked or e-mailed **between April 1 and April 30**, following instructions accompanying the form. The following field trips are offered for the 2007 Conference. Extended information on the field trips and Montana rock art, along with a suggested reading list, are available on the ARARA web site, [www.arara.org](http://www.arara.org).

### ARARA Field Trip Offerings

1. **Bear Gulch Site.** Friday, June 29 only. Participants: 20. Travel is ~120 miles from Billings. This field trip coincides with the last day of the Bear Gulch 2007 field documentation session.

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## Dr. Lawrence Loendorf to Be Keynote Speaker

Former ARARA President is Billings Native

**OUR 2007 ARARA KEYNOTE SPEAKER** is well-known Plains archeologist Dr. Larry Loendorf. He is an independent researcher and a Professor at New Mexico State University, Las Cruces. He is well known to most of you as a past President of ARARA and rock art researcher. His abundant rock art publications reflect his work associated with regional topics (including continual strong ties to his home base of the Plains), theoretical issues, preservation and recording methods, and ethno-

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## Billings Field Trips

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The tour includes a BBQ; cost to participants is \$30.00, which includes the owner's fee to visit the site (registrants for this field trip will receive instructions on making payment with their confirmation). The rock art is primarily of the Ceremonial Tradition. Bear Gulch has the largest concentration of shield bearing warriors in Plains rock art with 750 represented. Shield heraldry includes many types of designs that are repeated on numerous examples. One key motif is "Bear Coming Out," shown as shield heraldry on several examples. Other notable images include animals (bears, white-tail deer, elk, mountain sheep, bison, and birds) and V-neck humans. The Plains Biographic tradition includes coup count scenes and one tally of war honors that shows the only known prehistoric use of the bow-spear.

**2. Deer Medicine Rocks.** Friday, June 29 and Monday, July 2. Travel is ~120 miles east of Billings. This site is located on the Jack Bailey Ranch, with no public access. Late period historic petroglyphs are prominent and are scattered along the sandstone formations. The site is believed to be the location of two Sioux and Cheyenne Sun Dances, and where Custer's 7th Cavalry made their way through en route to the Little Bighorn.

**3. Petroglyph Canyon.** Friday, June 29 and Monday, July 2. Travel is ~70 miles from Billings, 4-wheel-drive is required. Located in the Bighorn Basin, the Petroglyph Canyon rock art sites are representative of the En Toto Pecked Figure Type. A concentration of small, fully pecked anthropomorphs with exaggerated hands and one with a fan-shaped headdress near unidentifiable zoomorphic figures are represented. Rare examples portray action such as an anthropomorph with bow shooting a deer. Vision quest imagery may be represented by the juxtaposition of anthropomorphs with a bird. Nonrepresentational examples are also represented.

**4. Steamboat Butte Area.** Friday, June 29 and Monday, July 2. Travel is ~40 miles northeast of Billings, 4-wheel drive is required. Two areas with petroglyphs are found along this natural sandstone formation that resembles a steamboat. The Upper Shelter has some petroglyphs that were subsequently painted, as well as red and black pictographs. Well-executed anthropomorphs, some with distinctive hairstyles, are represented and a few historic inscriptions are also present. The Lower Steamboat site has some red pictographs; biographic style petroglyphs predominate, examples include anthropomorphs, shield-bearing warriors, arrows, deer, and horse tracks. The nearby Big Bear Petroglyph is a good example of the large grizzly bears portrayed in rock art throughout Montana east of the continental divide.

**5. Castle Butte.** Friday, June 29 and Monday, July 2. Partici-

pants: 15, Travel is ~40 miles east-northeast of Billings. This site exhibits many examples of the Biographic Tradition. Combat scenes, represented in a visual narrative, document specific coup counting events. Ceremonial rock art may be indicated by the greatly exaggerated proportion of weapons to combatants, war medicine bridles, decorated shields, and weasel- or otter-skin medicine bundles carried by a mounted warrior.

**6. Weatherman Draw, Valley of the Shields, Tyrell, and Red Buffalo Sites.** Monday, July 2. Participants: Two groups of 10. Travel is ~70 miles southeast of Billings. Hike: Difficult. Weatherman Draw contains a half dozen separate rock art sites. The area is considered imbued with power central to the culture, spirituality, and history of a half dozen different Plains Indian nations. A coalition of Indian Nations came together a few years ago to stop proposed oil development in Weatherman Draw. The site is protected as an Area of Critical Environmental Concern. The **Red Buffalo site** is named for a bison superimposed with a composite human/bird/bison design. The **Provinse Pictographs** and **Bear Two-Shield** sites contain multicolored shield warriors, a large bear, a painted tipi, and small incised medicine bags. **Valley of the Shields** displays elaborate shield-bearing warriors manufactured in the Castle Garden style on abraded surfaces. Larry Loendorf anticipates re-opening of an excavation unit in 2007, possibly for the ARARA visit. The **Tyrell site** in the Pryor Mountains east of Weatherman Draw exhibits two red-painted anthropomorphs with headdresses that are similar to those used by members of the Crow Tobacco Society. These same headdresses can be seen on the anthropomorphs at the Red Buffalo site.

**7. Judith River Middle Fork Sites.** Monday, July 2. Participants: 20. Travel is ~150 miles from Billings. Several sites represent the "Central Montana Rock Art Tradition." Single elements and small panels are found on walls and/or ceilings of small caves where geometric designs, including crosses, circles, lines, and dots are painted. Painted red figures include shamans, masks, shields, anthropomorphs, hooves/paws, suns, hands, finger-lines, and geometric forms. Many figures may have been ritually scratched, and orientation is personal/ritual rather than representing a story for a group.

**8. Bruner Ranch Site.** Friday, June 29. Travel is ~60 miles northwest of Billings. The privately owned Bruner Ranch is located along the Musselshell River. The long, low bluff bordering the north side of the river valley is covered with petroglyphs and some red pictographs. A variety of humans, animals, and animal prints are present. Unique to the northwestern Plains examples include shield-bearing warriors, horses with riders, and three armored horses.

**9. Paul Duke Site.** Monday July 2. Travel is ~50 miles southwest of Billings. Petroglyphs panels appear on a series of cliffs scattered throughout the outcroppings, and on small groupings within several acres of the sandstone bluffs. Typical

petroglyphs of the area include horses, shield-bearing warriors, other anthropomorphs, and bear paws. Elk and a mountain sheep are present, and are rare in the area.

10. **Ashland Area.** Monday, July 2. Participants: 15. Travel is ~125 miles east of Billings, 4-wheel-drive required. A series of rock art sites are found along sandstone outcroppings forming bluffs in the Custer National Forest, west of the Northern Cheyenne Reservation. Petroglyphs, dominated by Protohistoric and early historic biographic rock art, represent shield figures, V-necked humans, horses, bear paws, and geometrics.

11. **North Cave Hills, South Dakota.** Tuesday, July 3. Participants: 15. Travel is a five-hour drive east of Billings, 4-wheel-drive is required. Monday is a travel day with overnight camping, then visiting the sites on Tuesday. Rock art is of the Hoofprint Tradition, with some faces in direct association, and rows of vulviforms that may represent animal genitalia. Many hoofprint petroglyphs are located adjacent to large Late Prehistoric period bison-processing sites. A row of hoofprints on an abraded surface with a large bison cow and calf may possibly represent a birth scene.

## Keynote Speaker

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graphic and archaeological analysis techniques. His rock art research in Montana and Wyoming has been reported in numerous books and articles, with his coauthored book *Ancient Visions: Petroglyphs and Pictographs of the Wind River and Bighorn Country, Wyoming and Montana* (University of Utah Press 2001) pertinent to the region of the 2007 conference. In addition to his rock art contributions, Dr. Loendorf has worked extensively on the prehistoric and early historic Native use of Yellowstone Park, coauthoring *Restoring a Presence: American Indians and Yellowstone National Park* (University of Oklahoma Press 2004) and *Mountain Spirit: The Sheep Eaters of the Yellowstone* (University of Utah Press 2006). He has produced video programs on rock art and on hunting traps and horn bow making of the Sheep Eater Shoshone Indians of the Yellowstone Park area. As principal investigator, he has directed projects throughout the Plains, Intermountain West, and Southwest that have resulted in extensive manuscripts documenting a variety of archaeological sites including rock art, with some of his best known rock art reports dealing with his work at Piñon Canyon in southeastern Colorado and more recently at Canyon de Chelly in Arizona.

## Call for Vendors

**THE VENDOR ROOM IN BILLINGS** returns to a traditional venue of a large room next door to the presentations. There will be ample space to display your wares. A percent of each vendor's sales goes to ARARA, and artists are sharing some of their best

work with subject matter that relates to their research and experiences with rock art. ARARA encourages artists to take ethical responsibility when rock art images are incorporated into their work and to show respect for the cultures of Native Peoples. Artists are encouraged to sign, date, and label their works incorporating rock art images. If you have not shown before, please include a photograph of your artwork as well as a good description of what you will be exhibiting. Janet Lever-Wood has stepped down the as Vendor Room Chair, and this year Barbara Murphy and Sharon Urban, both of Tucson, will Co-Chair the vendor operations. The Vendor Form has been sent with the registration packet and is available on the ARARA web site. This completed form to be accompanied by a Vendor's fee of \$25 (applied toward the percentage allotted to ARARA) is to be mailed to the following address by May 15:

ARARA — Vendor Chairs  
Box 210026  
Tucson, AZ 85721-0026

## 2008 Billings Conference News

### Special Rate for Lodging Available Until June 13

**THE CROWNE PLAZA BILLINGS** is the 2008 ARARA meeting site. It is a full-service high-rise hotel, located in downtown Billings with 282 rooms, meeting rooms, high speed internet, restaurant, lounge, and complete nautilus health club. All presentations and Conference events will take place at the Crowne Plaza.

Rooms are \$72+tax for one or two persons, and \$10 for each extra person in the room. The block of rooms will be held until June 13, 2007, after which rooms will be sold on a space- and rate-available basis. **Be sure to mention ARARA** when making your reservations. Contact the Crowne Plaza at (877) 227-6963 (toll-free), (406) 242-7400, or [www.crowneplaza.com](http://www.crowneplaza.com).

### Pre-Register by June 1

Pre-Registration deadline for the 2008 Conference is June 1. The Pre-Registration Form and full details on the Conference have been mailed to current ARARA members, and have been posted on the ARARA web site, [www.arara.com](http://www.arara.com).

### The Conference Logo

The 2008 Conference logo includes three shield figures from the Bear Gulch site northwest of Billings. The shield-bearing warriors are typical of rock art found in this region. These particular figures were painted on the wall, but many shield figures on the northwestern Plains occur as petroglyphs. The Bear Gulch site ([www.beargulch.net](http://www.beargulch.net)) is offered as one of the Friday field trips, but since it is privately owned and open for a fee, there will be a charge for the visit, which will include a barbecue lunch and tour of the excavation being conducted there.

## Dialogue (3): Cupules in Rock Art

### Introduction

CUPULES ARE A PROMINENT ROCK ART FEATURE in many parts of the U.S. as they are in other parts of the world. We asked **Roy Querejazu**, President, Asociación de Estudios del Arte Rupestre de Cochabamba (Bolivia), and organizer of the upcoming International Cupule Conference (July 2007), to tell us more about this enigmatic type of rock art. Here are his replies:

Q. What are cupules? How do you distinguish them from other kinds of rock art?

A. Cupules refer to any small artificial concavities made by humans in native rock. In his book *Rock Art Science*, Robert Bednarik defines them as “a hemispherical percussion petroglyph which may occur on a horizontal or vertical surface.”

This universal motif comes in different sizes, of which the largest are often referred to in archaeological jargon as “bedrock mortars” because they often show a polish from utilitarian wear.

The principal characteristic of cupules are their circular shape (although there are also oval cupules) and their concavity. These characteristics distinguish them from other kinds of rock art, although in many cases, the cupules are part of representational figures, such as eyes on a face.

Q. Why a conference on cupules? What inspired you to organize an entire conference on this specific motif?

A. Cupules are one of the commonest forms of rock art throughout the world. They exist around the world in a variety of geographic and environmental settings with a wide diversity of functions and symbolisms belonging to almost all prehistoric cultural eras. Some are even in use today. In spite of this, they have received very little attention from rock art researchers.

Another reason which motivated us is their presence in significant quantities in the Department of Cochabamba, where the academic event will be held. In the Cochabamba Rock Art Studies Association (AEARC), we think that a meeting of specialists in this topic is really needed in order to exchange experiences and learn from each other. We also aim to call their protection and conservation to the attention of regional authorities.

Q. You have already answered this question partially, but just how common are cupules in Bolivian rock art and elsewhere in South America?

A. I can only speak about Bolivia because I have not researched cupules in other countries. As I said, Bolivia has cupules of many types. In Tarija, there are oval cupules which to the best of my knowledge have never been studied. Just to the north of Cochabamba at Kelkata-Río Tambillo, there is a panel with irregular blows which look they were intended to obliterate the earlier paintings, an iconoclastic effort to destroy an ideology or credo. On the slopes of Mt. Tunari, also in Cochabamba Depart-

ment, the cupules are linked by channels, apparently to carry some kind of liquid offering to the sacred mountain in return for its life-bringing rain. In the Tarata region, the cupules are larger, more like mortars, but apparently without any utilitarian function. And finally, there are many kinds of cupules in the Misque region, which will be visited during the Conference excursion.

Q. Recently, Jack Steinbring suggested that cupules are one of the elemental rock art forms which may go back to the initial peopling of the Americas. Would you agree with that? Are any of them datable? Or dated? What are the oldest examples?

A. Although I don't have any specific evidence, I agree with Jack Steinbring about the possibility that cupules go back to the first migration to the Americas.

The possibility of dating cupules is more complicated than dating rock paintings, mainly because cupules are the product of a reductive process which does not contain organic material. In Bolivia, the most detailed study was the relative dating by microerosion of the petroglyphs at Inca Huasi done by Robert Bednarik in 1997. This method is accurate but not very precise. Using it, Bednarik estimated that cupules distributed randomly on a quartzite bench could correspond to the Early Holocene (8000-7000 years B.C.).

Elsewhere, the oldest cupules found so far have been discovered by the Early Indian Petroglyphs Project (EIP) in Auditorium cave and correspond to the Lower Paleolithic. The results of this project will be presented by Giriraj Kumar and Robert Bednarik, the project's co-directors, at the International Cupule conference next July.

In Europe, the oldest examples are eighteen cupules “that covered the underside of a large limestone slab placed on top of La Ferrassie [France] burial No. 6, the grave of a Neanderthal infant” (Bednarik et al 2005).

Q. Can any of the cupule sites be related to specific archaeologically documented cultures? Are they usually associated with other kinds of rock art?

A. The EIP project is multifaceted and includes more than just cupules. They are also looking at Lower Paleolithic petroglyphs as well as stone tool industries.

In Bolivia, there are painted rock shelters, such as Paja Colorada cave in the Department of Santa Cruz, with cupules in front of the panels which might have served for preparing the pigments used. In other cases, the rocks with cupules are within the limits of ancient settlements, such as the ruins of Lakatambo, which are dated to the Late Intermediate period (A.D. 1100-1438). We don't have specific evidence, but we assume they were made by the same people as lived in the settlement.

Q. Tell me more about the field project you will be carrying out as part of the Conference program. What will you be doing?

A. The main excursion will be four days in the Mizque area, where the Conference participants will be able to get acquainted with many of the topics mentioned in this dialogue, especially

functionality and possible symbolism. The visits to the cupule site will be mainly a visual acquaintance complemented by comments from scholars who have done work on the site. If any participant wishes to carry out further research on some of the cupule sites, AEARC will provide assistance.

### Book Review

## Plateau Publishes Issue on Hopi Iconography

Reviewed by Marglyph Berrier

*We Are Here: Pueblo Painting and Place. Plateau, Fall/Winter issue 2005. Museum of Northern Arizona (Flagstaff).*

FOR THOSE OF YOU WHO MISSED seeing a copy, I urge you to look at this collection of articles, which is the first in a series of publications associated with the Museum of Northern Arizona's Hopi Iconography Project. Rock art enthusiasts will find articles in this issue by notable rock art researchers Polly Schaafsma and Larry Loendorf as well as an article about Robert Mark and Evelyn Billo's Rupestrian CyberServices. This volume also includes articles about the paintings of Cliff Place and the Watchtower Murals at Grand Canyon National Park by Fred Kaboti. The whole issue is peppered with stunning photos, illustrations, maps, and artwork. While you read the interesting articles, you can marvel at the enhanced images, mosaics, and panoramas of "cybershaman" Robert Mark.

Polly Schaafsma's introduction sets the tone by discussing placement of Puebloan people's art in "culturally meaningful landscapes." She states, "Many researchers believe that rock art commonly has been perceived as having ongoing powers that affect human affairs in the present by reminding people of ancient and dynamic connections to cosmological realms, past and present, ancestors and descents." The articles that follow help to illustrate this point.

Larry Loendorf's contribution is "Pigments of the Imagination: Basketmaker Paintings in Canyon Del Muerto." He discusses the pictographs and structures that adjoined the cliffs and canyon trails. The article includes descriptions of the relationships between storage cists and the pictographs around them, discusses dating techniques used in his study, identifies possible painters, and suggests meanings for the images. Larry (like Polly) discusses the placement of the rock art and the relationships between the natural environment and the "built" environment of the Basketmaker people of Canyon Del Muerto. The photos included with this article are just a small sampling of the stunningly colorful images found in that canyon.

The next article is "Weaving the Sky: The Cliff Palace Painted Towers," written by Elizabeth Newsome. She does some fascinating comparisons between painted images at the Cliff Palace

and textile designs. Elizabeth is hoping to "unravel the meanings of these paintings by exploring ancient and historic relationships among textiles, paintings, and special places—landscapes and buildings."

More recent painted images are described by Jessica Welton in her article "The Watchtower Murals: 1930's Painting by Fred Kaboti." This article includes descriptions of some of the paintings, the process of designing the tower, and multi-level panoramas of the interior of the Watchtower taken by Robert Mark.

A serpent figure encircling the first level of ceiling opening in the Desert View Watchtower represents a Snake Clan legend. The Snake story that goes with this painting was told by Ferrell Secakuku of the Hopi Snake Clan from Second Mesa to Kelley Hays-Gilpin. Together they edited the story for this volume.

This volume could have been put together without the help of Rupestrian CyberServices, but would have undoubtedly been of an entirely different quality. Therefore it only seems fitting that an article be included about RCS itself with further examples of their camera magic, which has given life to this volume.

The volume ends with the poem "Blue Canyon" by Ramson Lomatewama. He is a multi-talented Hopi artist and poet. His current jewelry work includes petroglyph/pictograph figures of significance to the Hopi people.

Endnotes and a further reading list are included for each article for those who wish to know more about the subject(s). This volume would be an excellent addition to anyone's rock art library. The issue was supported by the American Rock Art Research Association, National Endowment for the Arts, and Rupestrian CyberServices. Copies may be purchased by contacting the MNA Publication Office at (928) 774-5211 ext 240.

## Call for Auction Items

WE ARE SEEKING DONATIONS of high-quality rock-art-related items to sell at the annual ARARA auction to raise money for the organization. This year the monies will be distributed not just to the Archives Fund but to any needy fund within the organization. Objects with memorable stories or histories that will be recognizable to the ARARA audience are especially important items, but we are seeking any rock art-related items. The Auction will be held at the conference venue, the Crowne Plaza Hotel. This year we will have a bigger room for the items, so bring as many items and as large an item as you wish. Dell Crandall from Moab, Utah, has again agreed to be our auctioneer. Plan now to join us for this important fund-raising event.

Rick and Carol Bury of California are in the process of retiring as auction chairs and will be helped in moving out of this position this year by Tom and Margaret Harless of Wyoming. Check with the registration desk to find where you can leave your donated items on Saturday for the evening event. Food and drink will be available for the participants.

## The Editor's Corner

## Casa Grande for Christmas

SINCE MY SISTER RETIRED RECENTLY TO CASA GRANDE, Arizona, a Christmas visit presented me with the perfect opportunity to see the Casa Grande Ruins National Monument nearby. Although the Monument contains no rock art, it's well worth a visit and contains several features of interest to rock arters.

For those unfamiliar with the place, the Casa Grande which the National Monument preserves is the largest Hohokam "Big House" still surviving, an adobe and stone structure some three stories high overlooking the flat plain of the Gila River valley. Today it stands amid pump-irrigated cotton fields. In Hohokam times when it was built, it commanded a network of surface irrigation ditches leading to gardens which fed a population estimated at around 2000 people, just a bit less than the population of the modern town of Coolidge Arizona, which now occupies the same space.

The Big House evidently dominated everything else around. The other structures nearby, which include a Hohokam ballcourt and residential compounds, are all now eroded down to soft contours scarcely visible to the untrained eye.

Traditions of the local Pima say Casa Grande was originally inhabited by a powerful magician, but it was already abandoned when the first Spanish explorers reached this area and in ruins when white settlers reached this part of Arizona in the late 19th century. Because of its strategic location near the Gila river trail to California, it immediately became a famous regional landmark. By the 1880s, a civic event held there attracted a crowd of some 15,000 people and "souvenir collecting" (i.e., "looting") left its surface archaeological context a shambles.

The resulting damage was so shocking and immediate that there was a public reaction. By the late 1880s, an initial survey of the site was made, and by 1892, Casa Grande became the first officially protected "archaeological preserve" in the U.S.A. Federal jurisdiction was established when it later became a National Monument in 1918.

For the modern visitor, the site's "protective umbrella" is its most immediate visual impact. A canopy roof supported by four giant steel tube pillars now dwarfs the Hohokam Big House and is the most evident (and imposing) feature of the site, protecting the crumbling structure underneath from rain (if not wind) and further destruction.

The first roof appeared soon after the site became a National Monument, but the present one dates to the 1930s and is itself a historic monument. For its time, it must have been a massive investment in archaeology and evidently saved the building from total collapse. Even so, early photos document the Big House's gradual deterioration. The present structure exhibits important restoration work. It depends on modern supports for

stability, and its interior is now totally closed to public access.

There is no rock art at Casa Grande but, needless to say, graffiti is abundant. Nearly all the graffiti were personal names and dates, stretching over more than a century. The earliest I found was dated 1879 and the latest ran into the 1970s, but my survey covered only the exterior walls visible to the visiting public.

This encounter led me back to the distinction between "historic inscriptions" and "graffiti" which Fred Blackburn talked about at our Bluff meeting in connection with Mesa Verde. On the walls of the Big House, the difference is obvious. Early "historic inscriptions" were nearly all scratched or chiseled into the walls, whereas later "graffiti" were spray-painted—often in garish colors.

Maybe we've been missing a significant change in media and technique and should restrict the term "graffiti" to the spray-painted kind, which agrees with our own culture's perceptions, and look for another term for earlier modern markings, not all of which are really so "historic," nor is their context and content quite so imposing as to merit the term "inscription."

On the other hand, one of the interior walls has a very interesting Native American "graffiti," possibly of early Piman inspiration, according to Phoenix city archaeologist Todd Bostwick. The figure, perhaps half a meter across, is scratched on the wall near floor level and consists of a labyrinthine design of concentric arcs. Technically, it is not rock art, but its motif is well known in Southwestern rock art. Its appearance in this built context provides another clue about their possible meanings and functions.

When I asked the Park Service personnel whether it might be possible to enter and photograph that figure, I received an extensive statement entitled "Special Use Policy" from the Chief Ranger. This policy apparently came into effect recently due to increased demands (like mine) for access to areas normally closed to the public. In case you're tempted to ask for some special privileges next time you visit a site, please be advised that a Special Use Permit is now required.

Take note also that application for all such permits must now be made with two weeks anticipation and includes a \$50 non-refundable fee and a \$100 standard processing charge. At Casa Grande, such use must be programmed outside normal visiting hours and therefore requires the presence of a ranger who receives \$50/hour (2-hour minimum) for his or her time.

One can hardly quarrel with the site protection this measure extends, but my photo would have cost me a minimum of \$250—not quite within *La Pintura's* budget—and a lot more advance planning than my brief visit allowed.

So I had to be satisfied with a Xerox copy of the Visitor's Center photo of the Hohokam "graffiti," and a picture of my sister marveling at the Big House. It really does look big when you get up close.

—Breen Murray, Editor

# St. Louis/New Harmony Footprint Petroglyphs, in Limestone

## History of the Removal and Comments on Their Origin as Observed From an Anatomical Standpoint.

Fred E. Coy, Jr., M.D.

### Introduction

EARLY ACCOUNTS OF PETROGLYPHS AND PICTOGRAPHS in the Eastern United States were infrequent. Jacques Marquette (Kenton 1925:357), 1673, recorded in his journal a description of a pictograph on the eastern bank of the Mississippi River. John Danforth (Delabarre 1928:28-49), 1680, made sketches of a petroglyph in southern New England. The first published report of a petroglyph was in 1690 when Cotton Mather used Danforth's information as a preamble to a sermon.

A century later a pair of human footprints, found in the limestone at the riverfront of St. Louis, were the topic of much interest and speculation. Were they actual footprints in the sediments before the sediments turned to stone? Was the sculptor American Indian or European? The footprints were subsequently quarried and removed to New Harmony, Indiana, in 1819. Inasmuch as the reports by early visitors to New Harmony and St. Louis on the footprints are found in obscure publications they are recorded here in some detail for the reader's convenience and reference.

### Historic Accounts of the St. Louis/New Harmony Footprints New Harmony

New Harmony, on the Wabash River in southern Indiana, was founded in 1814 by George Rapp (Lockwood 1905). This thriving religious German community soon became an important stopping point for travelers. The group of "Rappites" were involved in a diversity of commercial activities. A grist mill, a brick-yard, a cocoonery and silk-factory, a sawmill, distillery, brewery, woolen mill, and an oil-mill were soon in production using raw materials grown on their several thousand acres. With the success of the community it became obvious that markets for its commodities were too remote for economical transportation and that it would be prudent to return to Pennsylvania.

In 1825, the entire New Harmony, Indiana, holdings of the Rappites were sold to, Robert Owen, an English industrialist (Wilson 1984: 110). Owen envisioned establishing a "utopian" type of environment in which individuals would be free to engage

in their activities and to express themselves without being encumbered by the mundane restrictions of society. This was to be a sort of nineteenth century version of the "think tank." A number of the scholars of the time did participate in his experiment: naturalist Thomas Say, naturalist Charles-Alexandre Lesueur, geologist Gerard Troost, geologist Joseph Granville Norwood, geologist Charles Joseph Norwood, paleontologist Henry Pratten, geologist Edward Travers Cox, botanist Jacob Schneck, and numerous other visiting intellectuals of renown.

### Chroniclers of the Footprints Found in the Limestone at St. Louis

Oliver Oldschool (1816:8) had a brief comment about the St. Louis footprints in the 1816 July issue of *The Port Folio*.

About one-fourth of a mile below St. Louis there is a distinguished impression in a rock of a man's foot. The gentleman who informed me of this remarked, that the people in the neighborhood will not allow that this was done by Europeans.

George Rapp, on an 1818 business trip to St. Louis, was made aware of the human footprints in the limestone at the river's edge. On his return to New Harmony he asked his adopted son, Frederick Rapp, to arrange the quarrying of the footprints and having them transported to New Harmony. Frederick Rapp corresponded with a John L. Baker, their agent then in St. Louis, about procuring the footprints (Arndt 1975:613):

December 5, 1818.

If Mr. Anderson has not purchased that stone, try and purchase it yourself. I am willing to pay from \$50 to \$100 for it [Arndt 1975:629].

Edwin James, a botanist and geologist with the Major Stephen Long Expedition of 1819-1820 recorded observations about the footprints (1823:56-57) after his visit to New Harmony:

This stone was taken from the slope of the immediate bank of the Mississippi [at Saint Louis] below the range of the periodical floods.

We have no hesitation in saying, that whatever those impressions may be, if they were produced, as they appear to have been by the agency of human feet, they belong to a period far more recent, than the deposition of the limestone on whose surface they are found.

Henry R. Schoolcraft visited New Harmony on his western trip in 1821. He observed the "detached slab of secondary formation" with the footprints and published his comments about them the next year in the *American Journal of Science and Arts* (Schoolcraft 1822:223) (Figure 1):

These prints appear to have been noticed by the French soon after they penetrated into that county from the Canadas, and during the progress of settlement at St. Louis, were frequently resorted to as a phenomenon in the works of

—continued on page 8

## New Harmony Footprints

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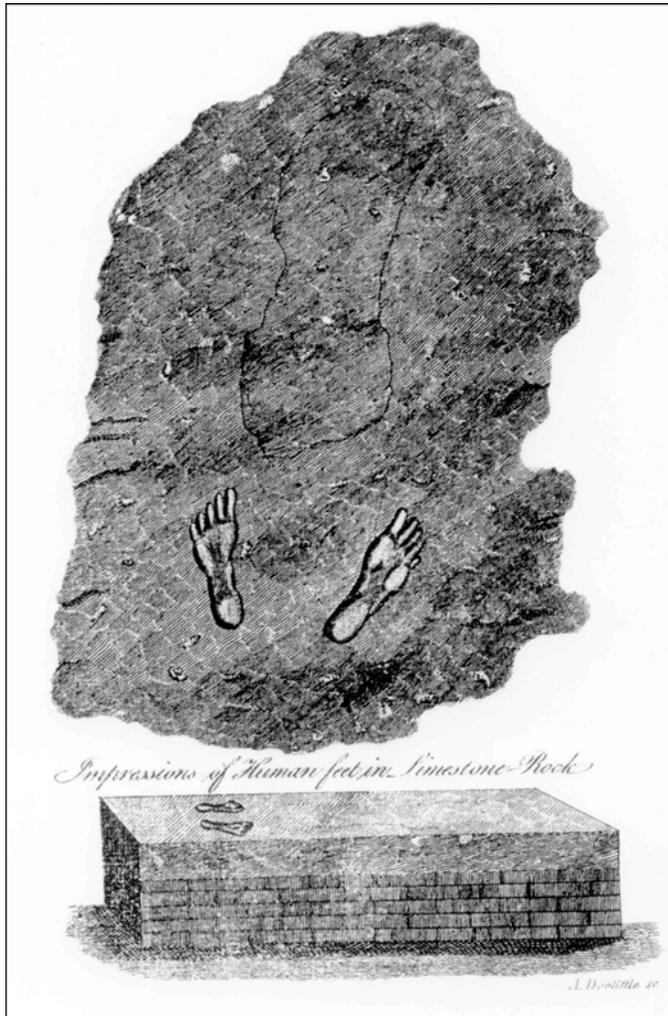


Figure 1. Sketch by Henry R. Schoolcraft of “Prints of Human Feet,” on a slab of limestone eight feet in length by three and a half wide, as observed at New Harmony, Indiana, on July 19, 1821. Present at that time were Governor Lewis Cass, Fred Rappe, and Major Robert A. Forsyth. (Letter to Benjamin Silliman, by Henry R. Schoolcraft dated June 5, 1822. Published in *The American Journal of Science and Arts*, Volume V. 1822 pages 223-230.)

nature. But no person appears to have entertained the idea of raising them from the quarry with a view to preservation, until Mr. Rappe visited that place five or six years ago. He immediately determined to remove the stone containing them to this village of Harmony, then recently transferred from Butler county in Pennsylvania, to the banks of the Wabash; but this determination was no sooner known than popular sentiment began to arraign his motives, and people were ready to attribute to religious fanaticism or arch deception, that was, more probably, a mere act of momentary caprice, or settled taste.

The prints are those of a man standing erect, with his heels drawn in and his toes turned outward, which is the most natural position. The distance between the heels, by accurate measurement, is  $6\frac{1}{4}$  inches, and between the toes,  $13\frac{1}{2}$  inches: but it will be perceived, that these are not the impressions of feet accustomed to a close shoe, the toes being very much spread, and the foot flattened in a manner that happens to those who have been habituated to go a great length of time without shoes. Notwithstanding this circumstance, the prints are strikingly natural, exhibiting every muscular impression, and swell of the heel and toes, with a precision and faithfulness to nature, which I have not been able to copy, with perfect exactness, in the present drawing. Every appearance will warrant the conclusion that these impressions were made at a time when the rock was soft enough to receive them by pressure, and that the marks of feet are natural and genuine. Such was the opinion of Gov. Cass and myself, formed upon the spot, and there is nothing that I have subsequently seen to alter this view: on the contrary, there are some corroborating facts calculated to strengthen and confirm it. But it will be observed by a letter which is transmitted with these remarks, that Col. Benton entertains a different opinion, and supposes them to be the result of human labor, at the same period of time when those enigmatical mounds upon the American Bottom, and above the town of St. Louis, were constructed. The reasons which have induced him to reject the opinion of their being organic impressions are these:

“1. The hardness of the rock

“2. The want of tracks leading to and from them.

“3. The difficulty of supposing a change so instantaneous and apropos, as must have taken place in the formation of the rock, if impressed when soft enough to receive such deep and distinct tracks.”

The following considerations, it will be seen, are stated by Col. Benton, as capable of being urged in opposition to his theory of their being of factitious origin.

“1. *The exquisiteness of the workmanship.*

“2. *The difficulty of working such hard material without steel or iron.*”

The drawings which I have taken of these impressions the inspection of the original, now at Harmony, and the best reflections I have been able to bestow upon attending facts and circumstances, concur in my mind, to establish the conclusion, that they are natural, and genuine; and consequently, that the discovery should be seized upon to erect a new genus of organic remains, of which the specific type should be any portion of the human frame, recognized in the anatomical nomenclature:

*Col. Benton in Reply.*

“Washington City, April 29th, 1822.

“Sir,  
 “Yours of the twenty-seventh was received yesterday. The ‘prints’ of the human feet which you mention, I have seen hundreds of times. They were on the uncovered limestone rock in front of the town of St. Louis. This rock forms the basis of the country, and is deposited in horizontal strata, and in low water is uncovered to the extent of three miles in length on the bank of the Mississippi, and, in some places, from one to two hundred feet wide.”

In 1825 Schoolcraft (1825:173-179) published an almost identical account in his book, *Travels in the Central Portion of the Mississippi Valley Comprising Observation on Its Mineral Geography, Internal Resources, and Aboriginal Population* (Figure 2).



Figure 2. In 1825 Schoolcraft published a book on his *Travels in the Central Portions of the Mississippi Valley*. He included a plate by Mr. Inman describing their technique and presenting “it to the public as being more minutely accurate than our own figure of the subject, published in the *American Journal of Science*.”

However he did improve on his technique to obtain a more accurate illustration (1825:173). “We present it to the public as being more minutely accurate than our own figure on the subject, published in the *American Journal of Science*” (1822:223-228).

William Newnham Blane published the report of his visit to America in *An Excursion Through the United States and Canada During the Years 1822-23 by an English Gentleman*. He speaks of the New Harmony footprints (1824:247-248):

In the court-yard, Rapp has placed a great curiosity, which he brought from the shore of the Mississippi, near St. Louis. It is a block of marble of the size of a large tombstone, on which are two impressions off the human foot, so uncommonly well defined, perfect, and natural, as to be worthy even of Canova.

The Indians certainly could not have executed anything of the kind; and the general opinion is; that some human being must have passed over the marble when it was of the consistency of clay, and thus have left the impression of his feet. William Owen (Hiatt 1906:77) recorded in his 1824-25 diary a visit to Rapp’s backyard.

In the backyard we saw a stone with the mark of two feet upon it, with a ring in front, supposed to have been made by an Indian before the stone was hardened.

Donald MacDonald (Snedeker 1942:147-379) recorded his visit in his 1824-26 diary.

In the yard is a large limestone slab, bearing the impression of two naked feet and an irregular square drawn seemingly by the point of a stick.

Josiah Priest (Priest 1834: 150-153) used Schoolcraft’s description and illustration in his 1834 *American Antiquities and Discoveries in the West*.

David Dale Owen was the fourth son of Robert Owen. David Dale had a diverse education in Scotland and Switzerland before making New Harmony his home. His interest was initially in chemistry and he developed a laboratory in New Harmony. Over the years this changed; he obtained a degree in medicine from the Medical College of Ohio in 1837 (Anonymous 1837 and Henderson 1943:23) University of Cincinnati, *Directory of Graduates*, Cincinnati 1926) under the preceptorship of Dr. Alban Goldsmith. He did not practice medicine but had “matriculated at the Medical College of Ohio in Cincinnati to study anatomy and physiology as an aid to the understanding of paleontology” (Hendrickson 1943:23). Finally geology became his passion and he continued in the field the rest of his life. Inheriting an ownership in New Harmony, he came into possession of the footprint slab of limestone. In 1842 he reported in *The American Journal of Science and Arts* on the limestone and its footprints as viewed from a geological standpoint (Owen 1842:14-32) (Figure 3).

## New Harmony Footprints

Continued from page 9

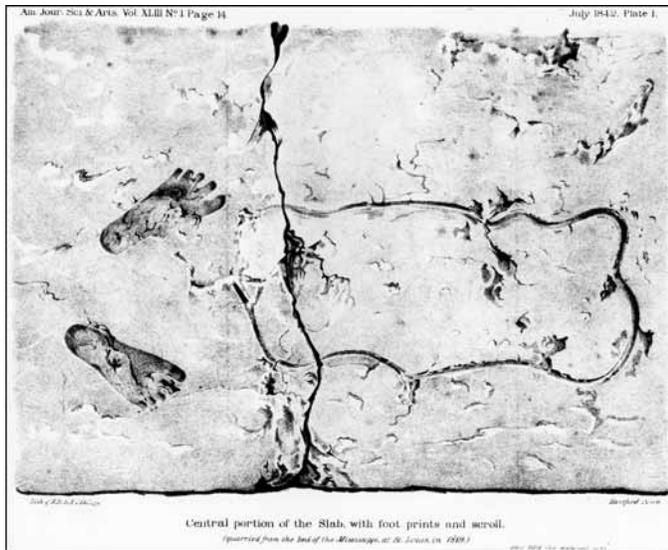


Figure 3. David Dale Owen, geologist, in 1842, then with the footprint slab of limestone in his possession, published an eighteen-page paper, with illustrations, on the footprints and geology of the rock. This was published in the *American Journal of Science and Arts*, Volume XLIII, October 1842.

The occurrence of representations of human feet in solid rock, has lately excited considerable attention, both in this country and in Europe. The intimate connection of the subject with those great problems, the age of our race and the gradual peopling of our globe with animated beings, invests it with additional interest, in the eyes not only of the scientific explorer but of the general reader also.

When that gentleman [George Rapp], in the year 1824, sold the New Harmony estate to my father, the slab also came into my father's hands, and ultimately into the possession of the late Mr. William McClure. After his decease, it was presented to me by his executors, and is now preserved in my museum of objects of natural history at New Harmony.

The prints are those of a man standing erect, with his heels drawn in and his toes turned outward, which is the most natural position. The distance between the heels, by accurate measurement, is six and one fourth inches, and between the toes thirteen and a half inches; but it will be perceived that these are not the impressions that happens to those who have been habituated to a great length of time without shoes. Notwithstanding this circumstance, the prints are strikingly natural, exhibiting every muscular impression and swell of the heel and toes, with a precision and faithfulness to nature, which I have not been able to copy with perfect exactness in the present drawing. The length of each foot, as indicated by the prints is ten and a half inches, and the width across the spread of the toes four inches, which

diminished to two and a half inches at the ball of the heel, indicating, as it is thought, a stature of the common size.

The argument deduced from the excellence of the workmanship would be more difficulty of reply, did these impressions represent almost any part of the human body other than the foot. What simpler or better outline to guide the inexperienced hand of a native workman, than the mark which is left on a smooth and dry rock by a moistened foot. With such an outline as his first guide, and with the constant opportunity of testing the accuracy of the progressive work, by applying it to the naked foot, there is surely no insuperable difficulty in supposing an aboriginal sculptor, (imbued perhaps, with that inborn love and taste for his art, which we are not justified in attributing exclusively to the Caucasian variety of the human race,) to have succeeded, even with such rude tools as an Indian could command, in producing a natural and faithful representation.

### Origin and Fate of St. Louis/New Harmony Footprints

The block of limestone with the footprints is now in the possession of Kenneth Dale Owen and his wife Jane Blaffer Owen. Kenneth Dale Owen is a direct descendant of Robert Owen who initially purchased the New Harmony property from the Rappites in 1824. Jane Blaffer Owen is the daughter of the founder of the Humble Oil Company and the granddaughter of the founder of the Texas Company. Shortly after their wedding Kenneth Dale Owen brought his bride to see his hometown of New Harmony. Mrs. Owen fell in love with the community and has been the driving force in its restoration. In purchasing property for this restoration the geological laboratory of David Dale Owen was obtained. The Owens retained some of the property for their private residences and even now choose to spend a considerable amount of the year in New Harmony. (Dieter 1985:10-14; Anonymous 1976:59-62; Anonymous 1975:1 and 12). The footprints on the limestone slab were acquired with David Dale Owens geological laboratory and remain on the private property of the Owens.

Permission to visit and photograph the "St. Louis foot-print petroglyph rock" was obtained from K. D. Owen (1994). A trip to New Harmony, Indiana, was made on May 3, 1995 (Figures 4 and 5). Mrs. Jane Blaffer Owen graciously and personally guided us to the petroglyph. She actually slipped off her shoe and tried her foot in the footprint on the rock.

Upon close inspection of the footprints it appeared that there was an obvious difference between those footprints and the Native American footprint petroglyphs that I had observed *in situ* in the area. During my professional life as an orthopedic surgeon I have had the occasion to examine and treat feet from all walks of life (no pun intended). With this background it occurred to me that the tracks may represent European feet



Figure 4. Dr. Ernest M. Ellison preparing to photograph the footprints on the slab in its May 3, 1995, position behind the David Dale Owen home in New Harmony, Indiana.

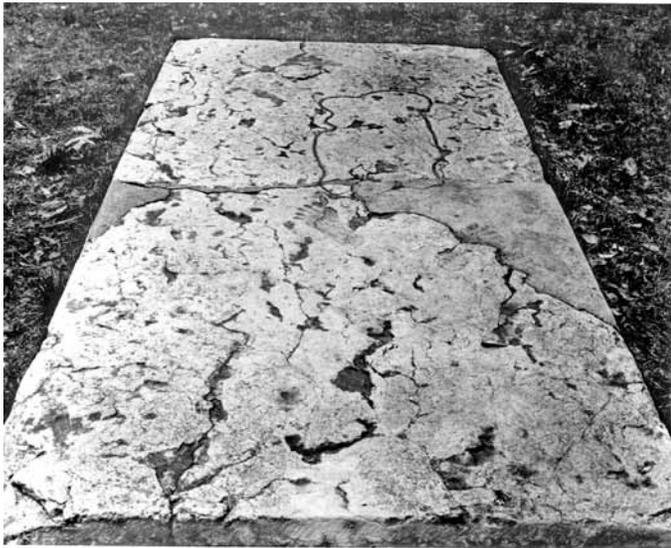


Figure 5. Photograph, By Dr. Ellison on May 3, 1995, of the limestone slab with the footprint petroglyphs at its present position in the yard of David Dale Owen's New Harmony, Indiana home. Note the repair, using concrete, of the missing portion of the original right footprint. The heel portion of the original right foot print remains but is quite faint. The left foot print is still visible as is a portion of the line design above.

rather than those of the Native American.

To pursue that thought I turned to the writings, previously mentioned, of early visitors to New Harmony. Initially there was discord, they were unable to determine whether the footprints in the limestone were actual footprints made in the sediments before they hardened or whether they had been "sculpted" by human hands.

The Honorable Thomas H. Benton replied to an inquiry from Schoolcraft (1825:23) dated Washington City, April 29, 1822.:

I have examined them often with great attention. They are not handsome, but exquisitely natural, both in the form and position—spread-toed, and of course anterior to the use

of narrow shoes. I do not think them "impressions," but the work of hands...

Edwin James (1823:56-57) thought that they were "impressions of human feet made upon that thin stratum of mud..." Blane's (1824:248) conclusions were the same as the others. However he did have some reservations and added as a afterthought:

I hope that the marble will soon be inspected by some one competent to give an opinion, particularly as the impressions may at no great length of time be effaced, from being always left exposed to the weather.

Dr. David Dale Owen did render a "competent" opinion. In the paper published 1842 in the *American Journal of Science and Arts* (1842:14-32) he described the geology of the limestone and his opinion of the footprints. He also recounts the circumstances that brought the rock into his possession:

These extracts fully explain the circumstances under which the slab was originally obtained by Mr. Rapp. When that gentleman, in the year 1824, sold the New Harmony estate to my father, the slab also came into my father's hands, and ultimately into the possession of the late Mr. William Maclure. After his decease, it was presented to me by his executors, and is now preserved in my museum of objects of natural history at New Harmony.

In preparation of the paper Owen contacted John L. Baker who at the time had been the St. Louis business contact for Frederick Rapp. During the years 1818 and 1819 Rapp had corresponded with Baker about the obtaining of the slab of the limestone containing the footprints and transporting it to New Harmony, Indiana (Arndt 1975:613-615, and Arndt 1978:156-160). Baker contacted Paul Anderson, living in Cincinnati, who had directed the actual quarrying of the rock by a local stone mason, John Jones. Anderson replied to Baker October 11, 1841 (Owen 1842: 16):

The letter of Mr. David Dale Owen, of the 20th ult. enclosed in yours of the 8th inst. was duly received by me here.

Well, sir, as to the limestone slab that Mr. Frederick Rapp obtained of me sometime in 1819 at St. Louis, I will tell you its history. The year after I was located in St. Louis, during the extreme low water of the Mississippi, I was shown the imprint of human feet, that was in the limestone rock on the *very margin* of the river, and which had been only seen by the old inhabitants there very few times; as it was said by them that it was not more than once in the period of ten years or so, that the river fell to its then stage.

Samuel Bolton, a resident of New Harmony, addressed the following communication to Owen (1842:22).

In reply to your inquires regarding the now famous limestone slab with its human foot-prints, I have to say, that in the year 1826, I visited and examined it repeatedly and

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## New Harmony Footprints

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minutely, and have a perfectly distinct recollection of its appearance at that time. I then compared the foot-prints with my own, placing my naked foot on the impressions. They corresponded very accurately both in outline and in the depressions, answering to the principal muscles of the foot and toes, except that the toes were somewhat more widely spread than mine. Mr. Maclure, Dr. Troost, Mr. Say and Mr. Lesueur, then residents of Harmony, examined the rock at the same time. They all agreed in opinion as to the artificial origin of the tracks...

Owen expressed his opinion after a careful “scientific” examination (1842:27):

After a close inspection of the slab itself, a careful examination into its geological position, age, and origin, and a patient review of the arguments of the various writers already quoted, I have come to the conclusion, that the impressions in question are not fossils, but an intaglio of artificial origin.

Apparently Owen’s conclusions placed the matter to rest as to whether they were actual foot prints or engravings. After the publication of Owen’s paper, the fact that they were carved by human hands was generally accepted.

David I. Bushnell, Jr. (1913:8-15) summarized the footprint petroglyph reports from the Eastern United States in the *American Anthropologist*, he included the reports of Schoolcraft and Edwin James in his paper.

### Then who engraved the footprints?

The artist will forever remain anonymous but certain observations may be derived from the known facts.

1. The footprints were engraved in limestone at the river’s edge, frequently covered with water, and only visible when the river was unusually low.

2. The impressive details of the carvings and the pristine condition when first observed:

Schoolcraft (1822:224) wrote that “the prints are strikingly natural, exhibiting every muscular impression, and swell of the heel and toes with a precision and faithfulness to nature...”

Col. Benton (Schoolcraft 1922:227), commenting on the “exquisiteness of the Workmanship,” stated “I cannot suppose that there is any artist now in America possessed of the skill necessary to produce such perfect and masterly pieces of sculpture.”

“English Gentleman” William Newnham Blane, describing the “great curiosity” (Blane 1824:247), noted that the footprints were “so uncommonly well defined, perfect, and natural, as to be worthy even of Canova,” in reference to Antonio Canova, an Italian sculptor who was an important figure in the development of Neoclassicism.

3. The footprints engraved on the limestone had been known for many years.

These prints appear to have been noticed by the French soon after they penetrated into that country from the Canadas, and during the progress of settlement at St. Louis, were frequently resorted to as a phenomenon in the works of Nature (Schoolcraft 1822:223).

Colonel Benton commented in a letter to Schoolcraft (1822: 231): “The ‘prints’ were seen when the country was first settled and had the same appearance then as now. No tradition can tell any thing about them. They look as old as the rock.”

4. During the 190 years or so that observations have been made, the footprints have become almost indistinguishable. The rather rapid deterioration after 1819 suggest that at the time the footprints were quarried they were not of great age.

By the time that David Dale Owen examined and published his “Regarding Human Foot-Prints in Solid Limestone” (Owen 1842), the limestone had endured twenty three years of exposure to the elements and it was showing evidence of weathering. The back of the slab was already cracked and was removed by Owen at the time he transferred it to his laboratory for examination (Owen 1842:14). In addition to this there were other signs of deterioration (Owen 1842:27):

The surface of the foot-prints themselves is somewhat broken by small superficial cracks and indentations; and deeper fissures and inequalities are distributed over the rest of the slab. It was quarried in two pieces; the fracture is shown in the drawing.

The fact that it was quarried in two pieces apparently was not mentioned in the earlier accounts or in Schoolcraft’s illustrations. The edges of the crack, in the drawing included with Owen’s paper, do not appear to be sharp but show the blunting and the spalling effects of rain and of freezing and thawing.

The ravaging effects of weathering continue to take a toll on the footprints. A photograph ca. 1900 (in the possession of the Indiana Historical Society) shows the slab to be broken, about in the center, with a piece that included the right forefoot to be missing.

The footprints remaining bear very little resemblance to the early published sketches. Marguerite Young (1945:11-12) in a facetious way explains the repair of the footprints:

In 1940, an odd-jobs man, a berry picker or builder perhaps of outhouses, was hired to do the work of community restoration, at fifty cents an hour. He could be seen squat on the lawn, chiseling—though always willing to exchange words with any stranger. He wore a hat with holes for ventilation. He chewed a straw, most somnolently. It would have been inconsistent with his character to contradict himself. If there had been no angel, then he would not be putting its footprints back into place, would he? As a nonunion laborer, having no steady employment, he found

it hard to keep body and soul together, and was glad for this windfall, and would not look the gift horse in the mouth. Carving an angel's footprints was better than berry-picking at twenty-five cents an hour and meant shoes for baby, whose toes were always sticking out.

William E. Wilson (1964:71) adds to this statement: "Marguerite Young, who seems to have been hoaxed by a New Harmony newspaper editor in the 1940's into believing he was a stone mason hired each year to "restore" the footprints with a cold chisel, leaves the matter of Father Rapp's abuse of them up to her reader' imagination.

When the rock was examined in 1995 the footprints were only barley visible. The break in the slab had been repaired. The area with the missing right forefoot had been filled in and missing portion of the forefoot added. The surface of the limestone showed multiple areas where flakes had been or were currently being spalled off. Freezing and thawing, acid rain, and human impact have certainly exacted their toll on the footprints. It was obvious that little of the original designs remain, probably the only exception being the placement of the footprints (Figure 6).



Figure 6. A composite of illustrations of the left footprint from Schoolcraft's 1822 and 1829 publications, and David Dale Owen's 1842 and E. M. Ellison's 1995 photographs. The left footprint was chosen for illustrative purposes inasmuch as it remains relatively intact at the present time.

### Are the Footprints of Native American Origin?

Of the several early sketches of the footprints it appears that the approach used by Schoolcraft to derive his illustration is the most accurate (1825:173-174).

To obtain an exact drawing of these interesting prints, we moistened a sheet of paper to a degree that permitted its being pressed by the palm of the hand into the most minute indentations. While thus pressed in, we drew the outlines in pencil. From this drawing the accompanying plate, by Mr. Inman, is a faithful transcript, on a reduced scale. We present it to the public as being more minutely accurate than our own figure of the subject, published in the *American Journal of Science*.

From Schoolcraft's illustration it may be noted that:

1. The feet are externally rotated at a 50° angle (Schoolcraft: "distance between extremities of the toes thirteen and a half inches").

2. The heels are apart (Schoolcraft: "distance between heels, by accurate measurement, is six and a quarter inches").

3. Left foot is a "little advanced."

4. The toes are long and thin.

5. There is no defined longitudinal arch.

6. Hallux valgus, the great toe is deviated away from the midline of the body. Hallux valgus is defined as "a deviation of the great toe toward the outer or lateral side of the foot."

The footprints on the St. Louis/New Harmony limestone slab were compared with Prehistoric Native American footprints from a variety of sources. As a starting point a number of footprint petroglyphs were found in publications on Native American rock art in the Eastern United States (Coy 1991, 1993; Coy and Fuller 1966, 1970, 1996; Wagner 1993; Henson 1979; Swauger 1974, 1984). Investigators in the field of rock art supplied slides and photographs of footprint petroglyphs (Watson 1944; Diaz-Granados 1995; Henson 1995; Wellmann 1979). Dr. Watson (1944; 1969; Robbins 1981:377-380) furnished literature and photographs of casts of the actual tracks the prehistoric cave explorers left in the mud of the area caves. In my own collection were photographs of sites in Kentucky and the surrounding states. In an attempt to analyze this data base with some hard figures I consulted Dr. Louise Robbins' (1985) book on *Footprints* in which she had standardized the measurements of the feet. It soon became apparent that there was too much variation and artistic license in the footprint petroglyphs to make a meaningful statistical analysis. However certain common features were noted.

1. In all of the footprints, both actual and engraved, the posture of the great toe was either turned in or neutral, metatarsus adductus, commonly known as being "pigeon toed."

2. In all of the footprints the toes, when represented, were short and rounded.

3. Number of toes varied from four to six.

4. In general the footprints were broad across the metatarsal region. The metatarsal region is that part of the foot at the base of the toes.

5. When the footprints were of both the right and left feet the feet were in a neutral position in regards to rotation, also, both feet were together.

These observations were further strengthened by historic accounts of being able to recognize "Indian" footprints by the toes turning in. John D. Shane interviewed pioneer William Clinkenbeard shortly before 1843. He made a "verbatim" record which was edited by Lucien Beckner (1928:109).

Looked as much like an Indian as could be; black hair and

## New Harmony Footprints

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straight walk. [His mother was rescued from the captivity, which was the cause of his Indian paternity, by Boquet's Expedition in 1763.] (Their [The Indians] feet less [in size?], toes turned in. We could tell their tracks.

While on the Lewis and Clark Expedition Captain Merewether Lewis recorded in his journal that on Saturday, August 3, 1805, Captain William Clark walking the shore "observed a fresh track, which he knew to be that of an Indian from the large toes being turned inward..." (DeVoto 1953:177; Coues 1893:458).

### Conclusion

To summarize my supposition that the St. Louis/New Harmony footprints may not represent those of a Prehistoric American Indian I offer the following considerations:

1. The footprints are carved in limestone; other Native American footprints in the area are generally in sandstone or dolomite.

2. The footprints are not as old as were supposed by the early observers. This is demonstrated by the evidence of extensive destruction caused by the 170 years of weathering since they were initially quarried.

3. The posture and anatomical features differ from other footprint petroglyphs in the area as well as from the actual footprints of Native Americans found in the mud of area caves.

a. The feet are separated, the left extended more than the right and they are externally rotated. In the Native American petroglyphs the paired feet are together and internally rotated or in a neutral position.

b. The great toe deviates away from the midline of the body or toward the midline of the foot. In the Native American petroglyphs and actual footprints quite the opposite is true. The Great toe deviates toward the midline or away from the midline of the foot.

c. In support of the above, in historical accounts we are told that footprints were known to be "Indian" because they turned in.

4. To counter the early writers thoughts that these were not the footprints of a person that was accustomed to the wearing of shoes I offer:

a. A comparison of the width of the metatarsal for the length of the foot, with corresponding measurements of the 20th century foot (Robbins 1985:171), were the same.

b. A diminished longitudinal arch may be explained: the person serving as the model may have had pronated (flat) feet, or, if the outline of the foot had been scratched on the stone in preparation for the engraving, there would be no arch.

c. The spread of the toes. My artist friends tell me that toes are hard for a novice artist to represent; there never

appears to be enough room for all the toes. This was true with the Native American artists who solved the problem in a variety of ways. Often they represented the foot as having only four toes but sometimes they have represented the foot with as many as six. The toes are generally portrayed as being big and bulbous. The one characteristic that they all have is the deviation of the great toe toward the midline of the body. Nowhere are the toes found to be long and separated by considerable space.

2. Several of the writers were impressed with the excellence of the carvings and suggested that they had to be made with metal tools.

When the above pros and cons are tallied up I find that I am in general agreement with Owen's (1842:32) statement on the subject in his final footnote. I think that there is enough evidence from the stance, the position of the toes in reference to the foot, the accuracy with which the footprints were carved, the fact that they were carved in limestone, and the probable lack of antiquity to implicate some early European explorer as being the artist. As Owen noted:

Yet it is possible that our specimen might have been chiseled by the aid of iron or steel tools. Neither tradition nor its present appearance may justify us in positively dating its origin back beyond a couple of centuries. But Bancroft, in his History of the United States, reminds us, that Soto and a party of Spaniards ascended the Mississippi above New Madrid in the year 1541; and dispatched an exploring party to examine the regions farther north. This or some other party perhaps some of the persevering Jesuits, who at a very remote period penetrated these wilds—may have reached St. Louis at that early day, and introduced iron tools among the Indians. Nay, it is within the bounds of possibility, though certainly improbable enough, that some of these adventurers themselves were the sculptors.

My only disagreement with Owen's final statement is with the phrase, "though certainly improbable enough." I would suggest "though certainly probable enough."

### Angel Gabriel's Footprints

Any discussion of the St. Louis/New Harmony footprints would not be complete without mention of the legend of these being the footprints of the Angel Gabriel. The only early reference to the footprints having a religious connotation are by Schoolcraft (1822:223).

...no person appears to have entertained the idea of raising them from the quarry with a view to preservation, until Mr. Rappe visited that place five or six years ago. He immediately determined to remove the stone containing them to this village of Harmony, then recently transferred from Butler county in Pennsylvania, to the banks of the Wabash; but this determination was no sooner known than popular

sentiment began to arraign his motives, and people were ready to attribute to religious fanaticism or arch deception, that was, more probably, a mere act of momentary caprice, or settled taste. His followers, it was said, were to regard these prints as the sacred impress of the feet of our Savior.

The myth was perpetuated by George Lockwood (1905:20) in his book *The New Harmony Movement*.

...still remains in New Harmony what is known as "Gabriel's Rock"—two limestone slabs, originally one stone, ten feet by five, and five inches thick. Upon one a square figure is traced, occupying the center, and upon the other appears, seemingly, the imprint of two feet—the print of the right foot being perfect, while the forepart of the left foot has disappeared. The tradition is that Father Rapp informed his followers that these were imprints of the feet of the Angel Gabriel, who had alighted upon earth to convey to the society a message from heaven.

John S. Duss talking about two outstanding falsehoods about George Rapp states (1970:59):

Story number one is that of a stone slab which Frederick Rapp brought from the bank of the Mississippi River. The stone contained the imprint of what seemed to be that of two human feet. The stone was placed in front of the home of two Rapps. After the departure of the Harmonists some way or evil-minded person invented the tale that the "footprints" were those of the Angel Gabriel, who had appeared to him and delivered certain revelations. The Harmonists are supposed to have swallowed the announcement "hook, line and sinker." This tale was bandied about and written about, in spite of the fact that William Owen in his Diary plainly sets forth the facts as told him by Frederick Rapp.

William E. Wilson (1964:70-77) adequately discusses and debunks these theories in *The Angel and the Serpent, the Story of New Harmony*.

From the Harmonists' years in Indiana survives another example of the persistence of myth entangled in their history, a bit of local gossip that annoyed them the rest of their days almost as sharply as the story of John Rapp's death; it is the legend associated with two naked human footprints on a limestone slab that is still to be seen in New Harmony in the yard of Father Rapp's home at the corner of Church and Main. Today's visitors to the town always hear the story. Father Rapp it is said, brought the stone from St. Louis and told his people the footprints were Gabriel's made when Gabriel came down from heaven to advise him about the conduct of their affairs.

In a desperate moment Father Rapp might have been tempted by that old serpent to say that the mysterious footprints were Gabriel's or even the Lord's, but it is unlikely that he would have yielded to such a temptation. The legend had already been invented before he saw the stone and had

probably preceded the footprints to Harmonie. Father Rapp was not so stupid as to use a story that his people had already heard from their enemies, or would certainly hear soon, even though the Devil might have been stupid enough to think he would do so. What is more, there were few, if any, desperate moments for the leader of the Harmonists in the year 1819. His people were prospering that year, and yet there was still plenty to keep them occupied before they were ready for the millennium. They had little time for restlessness or dissension. Finally, if George Rapp had indeed been so tempted and in a moment of weakness had yielded, his adopted son would have had to go along with the hoax. Certainly Frederick Rapp would not have been showing the stone to strangers two years later, telling them where he got it and how much he paid for it and retailing the gossip to them.

Finally it would appear that if the slab with the footprints had a great deal of religious significance it would have been moved when they returned to Pennsylvania in 1824.

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## 2008 35th Annual Meeting in Farmington Needs Committee Volunteers

IT IS TIME TO START ORGANIZING and planning for our 35th annual meeting in Farmington, New Mexico, site of our first meeting in 1974. Although we have not been to Billings yet, we are looking ahead to make the Farmington meeting a memorable celebration. In order to do so, we are organizing a group of volunteers to help plan special events at the 2008 meeting. If you are interested in serving on this committee, please contact Donna Gillette at [rockart@ix.netcom.com](mailto:rockart@ix.netcom.com) or call her at (408) 223-2243.

## Note Cards for Sale

THE EDUCATION COMMITTEE OFFERED AWARDS to the winners of the poster contest at the 2006 annual conference in Bluff, Utah. Local students from elementary and high school submitted entries, all very well done and highly creative, responding to the theme "Rock Art: The Importance of Cultural Heritage." All participants received a certificate of participation, and the three winners received an additional cash prize along with a set of cards made from their images.

These note cards are available for sale. They are perfect for holiday greetings or to simply keep in touch with friends. Six cards are in each packet, two of each winning image. They are \$6.00 for a packet; shipping is included. E-mail Amy Leska at [festuned@sbceo.org](mailto:festuned@sbceo.org) for information on how to order.



This image is done by fourth grader Garrett Barton from Blanding Elementary School under the direction of his teacher, Mrs. Dina Cahoon. Garrett's family goes back to the founding days of Bluff.

## Important Membership Information

- Membership year is July 1-June 30
- Membership will be renewable on a yearly basis only. No multiple year renewals.
- Membership renewals by snail mail only.
- Membership renewals will not be available in conjunction with conference registration.
- Late renewals: Because of cost and time constraints associated with individual mailings, if you renew after issues of *La Pintura* have already been sent, you will need to download those back issues from the ARARA website, [www.arara.org](http://www.arara.org).

## URARA Issues Call for Presentations

THE UTAH ROCK ART RESEARCH ASSOCIATION (URARA) has issued the following call for presentations for its 27th Annual Symposium in Moab, Utah, October 6-8, 2007 (Columbus Day Weekend).

Abstracts should be kept at about 150 words but enough so conference organizers can get an idea of your presentation. Deadline for abstracts is July 15, 2007, and we ask that you honor the deadline so we can develop our program for printing, publicity, etc. Proposals arriving after the deadline, without the prior approval of the Symposium Committee, will not be considered. The Symposium Committee will give preference to presentations that relate to Utah rock art. We encourage projects that relate to the Moab area and the Green and Colorado River drainages. Presentations will be 30 minutes, although some may run shorter. Two Featured Speakers will be given 60 minutes for presentation followed by questions and answers. For more information contact David Sucec at e-mail (preferred) [davids@networld.com](mailto:davids@networld.com), or by mail:

David Sucec  
832 Sego Avenue  
Salt Lake City, UT 84102  
Telephone (801) 359-6904

## Ballot Reminder

ARARA members are reminded to return 2006 ballots for Board Members to the Nominating Committee. Deadline for returning ballots is May 1, 2007

Look for 2007 Billings Conference  
Updates and Information Online at  
[www.arara.org](http://www.arara.org)

## Call for Papers for *La Pintura*

**ARARA members would love to read** about your new rock art discovery, recording project, or new idea for interpretation. *La Pintura* needs members to submit articles on current research or fieldwork. Doing so will make *La Pintura* a better journal. Editorial guidelines can be found on the inside back cover of every issue.

## Editorial Deadlines for *La Pintura*

To insure timely publication of each issue of *La Pintura*, please follow the following schedule of deadlines for all Editorial copy and other submissions:

Issue 1: August 1

Issue 2: November 1

Issue 3: February 1

Issue 4: May 1

(Note: Issue 4 is the Annual Conference Program Issue, but includes additional Editorial matter as in any other issue)

Send all materials for inclusion in *La Pintura* to the Editor, William Breen Murray, via e-mail:  
wmurray@udem.edu.mx

## International Newsletter on Rock Art

**INORA**—*The International Newsletter on Rock Art*, edited by Jean Clottes and published in French and English three times a year (February, June, November)—is available to ARARA members for \$20 a year. Subscribe through ARARA and save the \$10 French bank charge. The 32-page newsletter contains the latest international rock art news. To subscribe, send a check for \$20 **made out to ARARA** to:

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## ARARA Addresses

ARARA has several addresses. To get the most timely response, please send your inquiry to the right place.

### Membership

For **all Membership matters**, including new and renewal memberships (see full membership information on inside back cover), replacement of undelivered issues of *La Pintura*, and corrections or changes in membership information and addresses, contact:

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For **matters regarding production and mailing of *La Pintura***, contact:

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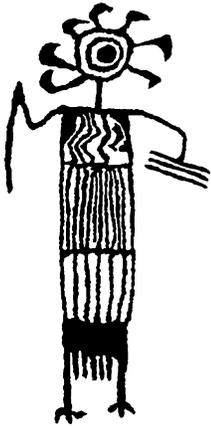
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For current information on **ARARA** and its events, officers, bylaws, publications, and membership, visit:

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The **American Rock Art Research Association** is a non-profit organization dedicated to encourage and to advance research in the field of rock art. Association members work for the protection and preservation of rock art sites through cooperative action with private landowners and appropriate state and federal agencies.

The **Association** strives to promote non-destructive utilization of rock art for scientific, educational, and artistic purposes. This is accomplished through a wide-ranging program to inform and educate the members as well as the general public regarding the rock art heritage of the United States as well as

worldwide. These goals are communicated through the quarterly newsletter, *La Pintura*. Annual three-day conferences give both members and others interested in rock art the opportunity to share professional papers, slide presentations, and informal discussions.

Membership in the **American Rock Art Research Association** is open to all with an active interest in research, non-destructive use, and preservation of rock art, regardless of their nationality or country of residence. Membership fees are:

Donor	\$120.00
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Membership runs from July 1 through June 30 of each year. The Association is concerned primarily with American rock art, but membership is international in scope. Benefits include *La Pintura*, one copy of *American Indian Rock Art* for the year, reduced conference fees, and current news in the field of rock art. More importantly, membership means a shared concern for the ongoing conservation and preservation of one of the most significant elements of our heritage. Send memberships to:

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## ARARA Code of Ethics

The **American Rock Art Research Association** subscribes to the following Code of Ethics and enjoins its members, as a condition of membership, to abide by the standards of conduct stated herein.

1. All local, state, and national antiquities laws will be strictly adhered to by the membership of **ARARA**. Rock art research shall be subject to appropriate regulations and property access requirements.

2. All rock art recording shall be non-destructive with regard to the rock art itself and the associated archaeological remains which may be present. No artifacts shall be collected unless the work is done as part of a legally constituted program of archaeological survey or excavation.

3. No excavation shall be conducted unless the work is done as part of a legally constituted excavation project. Removal of soil shall not be undertaken for the sole purpose of exposing sub-surface rock art.

4. Potentially destructive recording and research procedures shall be undertaken only after careful consideration of any potential damage to the rock art site.

5. Using the name of the **American Rock Art Research Association**, the initials of **ARARA**, and/or the logos adopted by the **Association** and the identification of an individual as a member of **ARARA** are allowed only in conjunction with rock art projects undertaken in full accordance with accepted professional archeological standards. The name **ARARA** may not be used for commercial purposes. While members may use their affiliation with **ARARA** for identification purposes, research projects may not be represented as having the sponsorship of **ARARA** without express approval of the Executive Committee.

The **ARARA** Code of Ethics, points 1 through 5, was adopted at the annual business meeting on May 24, 1987. The Code of Ethics was amended with the addition of the opening paragraph at the annual business meeting, May 28, 1988.

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