



# AURA Newsletter

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## Recent rock art protection issues in the United States

### Rock art vandal pleads guilty to ARPA violation

Glen Canyon National Recreation Area

National Park News, Monday, 10 January 2011

An NPS concession employee came upon recent damage to a rock art panel below Glen Canyon Dam last June and reported it to a park interpretive ranger. The damage consisted of the name 'TRENT' scratched into the panel. The interpretive ranger had visited and photographed the rock art, known as the Descending Sheep panel, less than an hour prior to the report, and had also observed a guided fishing trip on the beach near the panel. This information was passed on to a law enforcement ranger working at Lee's Ferry, who found the fishing guide at the boat ramp and asked if he had anyone on his trip by the name of 'Trent'. After the guide pointed out his passengers, the ranger asked for Trent. Trenton Gainey of North Carolina responded and admitted to scratching his name into the rock. Gainey told the ranger he did it because he thought it would be 'cool'. On 9th December 2010, Gainey plead guilty to one felony violation of the Archaeological Resource Protection Act in federal magistrate's court and agreed to pay \$10 000 in restitution to repair the damage he caused to the panel. He is scheduled for sentencing in the district court in Phoenix on March 14th. The investigation was conducted by NPS rangers, Glen Canyon cultural resources staff, and Investigative Service Branch investigators.

(Provided by Dr John Greer)

### Pre-Historic rock art damaged by graffiti: BLM offers reward for information leading to arrest

(PHOENIX, AZ) The Bureau of Land Management (BLM) is offering a \$2500 reward for information leading to the arrest and conviction of those responsible for damaging pre-Historic rock art, a federal crime that carries a \$100 000 fine and a year in prison.

Several panels of federally protected petroglyphs within the Agua Fria National Monument were recently spray-painted with obscenities and a series of faces in the pattern of

jack-o-lanterns. The location of the crime is in a remote area of the National Monument east of Cordes Junction, Arizona, off EZ Ranch Road. Officials believe that the vandals were on location at least twice between July and November. If you have information about this crime, call Special Agent Angela Stevens and 602-417-9316.

Under the *Archaeological Resource Protection Act* of 1979 it is illegal to damage ancient petroglyphs or any archaeological site or feature. Other charges include vandalism and destruction of government property.

The BLM Arizona manages some of Arizona's best-preserved, most significant systems of pre-Historic sites in the American Southwest. The Agua Fria National Monument contains more than 400 archaeological sites, spanning some 2000 years of human history. The first Indian settlers were Archaic people, moving seasonally to hunt game and gather wild plant foods in the area until about 1100 CE. Adjacent to rapidly expanding communities, the 71 000-acre National Monument is approximately 40 miles north of central Phoenix.

The BLM manages more land — 245 million acres — than any other Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 western states, including Alaska. The Bureau, with a budget of about \$1 billion, also administers 700 million acres of sub-surface mineral estate throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development and energy production, and by conserving natural, historical, cultural and other resources on public lands.

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*Damage after vandals used spray paint on historic rock art panels at Red Rock Canyon. Images by Friends of Red Rock Canyon.*

### **Ancient Red Rock art vandalised for ‘shock value’**

By Jackie Valley, *Las Vegas Sun*

Thursday, 9 December 2010

Metro Police said ancient art vandalised at the Red Rock Canyon National Conservation Area was probably targeted because of the high-profile nature of the damage. Police have identified more than 500 different tagging crews in Las Vegas — gangs of graffiti vandals — but they frequently change their names so it is difficult to say how many are active at any given time, said Detective Scott Black, of Metro’s graffiti section in the gang crimes bureau.

‘The motivation that the graffiti vandals have is to cause extremely destructive damage’, he said. ‘They like a lot of shock value. While they go around and tag light posts and powers boxes, if they tag more high-profile locations, it does increase their status’.

Given that mindset, police believe the Red Rock Canyon area was a planned target of the tagging crew. Police enlisted the help of the U.S. Marshal’s Service on Wednesday to find the 17-year-old allegedly responsible for the Red Rock graffiti in late November. He has been charged with placing graffiti with a gang enhancement, a felony that carries a possible five-year jail sentence and a fine up to \$100,000, authorities said.

Black described the suspect as a ‘very prominent graffiti vandal’, who had been hiding in the Las Vegas Valley as word spread that police were looking for him. The suspect, who was not attending school, used the graffiti moniker ‘Pee Wee’ in various spellings, Black said. Police previously said the graffiti was associated with a local gang sometimes referred to as the ‘Nasty Habits Crew’.

Erika Schumacher, chief ranger with the Bureau of Land Management, said officials are educating the public about the importance and delicacy of the ancient art and natural land formations found in the conservation area in the wake of the vandalism. ‘We are still processing the scene to determine what value of destruction has occurred out there’, she said.

The Red Rock art panels — varying in size from 3-by-6 feet to 8-by-9 feet — were covered with maroon spray paint. The vandalism happened in the Willow Spring/Lost Creek area, officials said. The panels included pictograms, paintings and drawings on rock, and petroglyphs, which are drawings scraped and ground onto the surface of the rock. All were severely damaged, officials said. The drawings could date back to 1000 CE and were probably made by pre-Historic

cultures that lived in the area, such as the Virgin Anasazi or the Paiute.

The Bureau of Land Management previously estimated the restoration would cost about \$10,000. The vandalism is the most severe case in Red Rock in the past several years. If people see suspicious activity, Schumacher said they should contact the visitor centre at Red Rock Canyon National Conservation area or call Crime Stoppers. Police said Nevada law allows them to arrest a suspected graffiti vandal for a felony if evidence exists of a continued pattern of crime, such as small graffiti scenes over time. ‘This is not a very good city to be a tagger in’, Black said. ‘We are going to find you and we are going to arrest you’.

### **Restoration of vandalised rock art getting under way**

By Kyle Hansen, *Las Vegas Sun*

Friday, 6 May 2011

Work to restore vandalised ancient rock art in the ‘Sistine Chapel’ of Red Rock Canyon is finally getting under way. The art, left by American Indians thousands of years ago, was the target of graffiti vandals in November. Areas as large as 9 feet wide were covered with maroon spray paint, apparently for the shock value of the damage, police said.

The Bureau of Land Management has worked with two non-profit groups that support the park — the Red Rock Canyon Interpretive Association and the Friends of Red Rock Canyon — to hire an international expert to remove the graffiti and restore the art. Jannie Loubser arrived this week and is preparing to get to work on the project, a delicate task that he compared to plastic surgery. The cleanup should be finished by the end of the month, he said. Loubser has been working with rock art in four continents since 1989. After taking his first in-person look at the damage Thursday, he said there is good news and bad news.

‘This is bad because of the material’, he said. ‘The spray paint is hard on rock, because the force of the application forces the paint into the rock’. The bright side, he said, is it appears none of the spray paint is actually on top of the ancient art. ‘We’re lucky. It could have been worse’, he said.

Tim Wakefield, field manager for the BLM over the Red Rock/Sloan Field Office, said some visitors are upset it has taken so long to get the vandalism cleaned up. ‘It’s our Sistine Chapel. It has been painted, and you don’t get just anybody to deal with that’, he said. ‘You don’t rush into something that’s a spiritual, cultural site’, Wakefield said. ‘It would have

been great if we could have gone in there and taken care of it that day, but we couldn't do that, and we kind of benefited from it because the more people who see it, the more people realise how wrong it is'.

The project is expected to end up costing about \$24000, well above initial estimates of \$10000, officials said. But they believe they have raised enough money to cover the expense. The Red Rock Canyon Interpretive Association has raised more than \$14000, with \$5000 coming from NV Energy and \$2000 from the Las Vegas Paiute Tribe. The Friends of Red Rock Canyon has received about \$19000 in donations, but part of that money is going to a reward for information leading to a conviction in the case.

In December, Metro Police arrested a 17-year-old on a count of placing graffiti with a gang enhancement, a felony that carries a possible five-year jail sentence and a fine up to \$100000.

Donations for the restoration and reward came pouring in immediately after the damage was disclosed, Friends President Mark Beauchamp said. 'It was great to find out that we're not the only ones that think this is special', he said. The group was especially excited to receive a relatively small donation, \$200 raised by 13 students at Grant Sawyer Middle School. 'That's pretty generous for a bunch of school kids to get that together', Beauchamp said. The students were angry when they heard about the vandalism, so they took it upon themselves to raise the money from their classmates. The Friends group invited the 13 children on a field trip to the canyon Friday to see the damage first hand and meet with Loubser.

But the cost of the damage isn't just reflected in the expense of cleaning up the graffiti, said Blaine Benedict, the executive director of the Red Rock Canyon Interpretive Association. 'We're spending a significant amount of money to do the restoration, and the money could have been used to do other educational projects', he said. 'It's a theft from thousands of school children of the opportunity to come to Red Rock Canyon and learn about the natural worlds'.

The visitors who come and see the damaged art are missing out, too, he said. 'We consider this a cultural asset and being in this condition deprives thousands of visitors of the chance to contemplate and reflect on the people who were here before us', Benedict said.

(Provided by Dr Robert Mark)

### **Stiffer penalties ahead for graffiti vandals**

Petroglyph damage at Red Rock spurs lawmakers to increase punishment

By Jackie Valley, *Las Vegas Sun*

Thursday, 23 June 2011

The blood-red spray paint found covering ancient rock art panels at Red Rock Canyon Conservation Area in November outraged the community and garnered national attention. The giant letters obscuring pictograms and petroglyphs signalled a change: graffiti vandalism had moved from the urban core to a federally protected historic site.

Authorities caught the alleged 17-year-old vandal within a week, but the incident helped spark legislation, effective in October, that carries stiffer penalties for graffiti vandals, especially at protected sites in Nevada. 'Because of the outrage

that case caused, we began to look at our existing law to see if there were changes we could make', said Detective Scott Black of Metro Police's graffiti investigation section.

State Sen. Valerie Wiener, who introduced the bill, actually began drafting the legislation before the Red Rock incident, the result of what she calls a 'light bulb moment' while visiting a school in her urban Las Vegas district. A student asked her why graffiti laws are so tough. The question caught her slightly off-guard, as she didn't consider the laws strict. 'It's theft', she told the student. 'It's stealing the value of someone's property'.

The exchange with the student compelled her to action after years of witnessing graffiti damage in her urban area of District 3, where she once saw graffiti pop up overnight and completely cover a three-block stretch of wall along Valley View Boulevard. 'It kind of wore on me', she said. 'I know what it does to neighbourhoods'.

Wiener and other officials began looking at Nevada's existing graffiti law, as well as laws in other states, to determine what could be added or enhanced to deter the crime. Officials soon noticed a gaping hole: the federal government was prosecuting the teen who allegedly vandalised Red Rock because it's a national historic site, but protected state areas, historic sites and landmarks didn't carry the same weight. The new law changes that discrepancy. Starting in October, anyone who commits graffiti vandalism on protected sites in Nevada (Valley of Fire State Park, for instance) will be guilty of a class-C felony, a charge that could lead to prison time, Black said. The law also includes the following changes:

- Multiple instances of graffiti vandalism by one person totalling \$500 now will constitute a felony charge, significantly reducing the previous \$5000 threshold to become a felony. (Police said two separate graffiti tags could cross the \$500 mark.)
- On third offences, judges can order vandals to clean up graffiti in a specific area for up to one year.
- A judge could order parents or legal guardians of juveniles convicted of graffiti vandalism to attend and participate in counselling sessions with their children.
- Public or private property owners can sue graffiti vandals for up to three times the cost of restoration, as well as attorney's fees and costs.

'This legislative change is the most significant step that this state has ever taken in regard to graffiti vandalism', Black said. 'It is basically making it very clear that if you are a graffiti vandal, you are not welcome in the state of Nevada'. Police constantly grapple with a graffiti problem in Las Vegas, partially because of the city's worldwide notoriety. The city tends to attract graffiti vandals who seek that 'rush' or 'thrill' of defacing property, Black said. Police said the proliferation of the Internet has added to the problem, giving vandals a place to showcase their work — many of whom boldly post videos on YouTube.

'Las Vegas is not only a tourist destination, it's a graffiti destination', Black said. 'Quite often, we will have investigations of large-scale damage, whether it's in the tourist corridor or elsewhere in the city'. Metro arrested more than 750 people for graffiti-related offences last year, the time frame in which officials spent about \$30 million of public

and private funds to remove it, Black said. In the past five years, police have identified more than 500 tagging crews, groups of graffiti vandals, with members of all ages and both genders, Black said.

To curb graffiti vandalism, Metro backed a bill that passed the Nevada Legislature in 2007, which created laws specific to graffiti, Black said. Previous to that, graffiti vandals were charged under a malicious destruction to property statute. Because fame motivates many graffiti vandals, graffiti-specific laws and stricter penalties are necessary, Black said. 'These guys are organised and their motivation is fame — fame being recognition from their peers', he said. 'They are absolutely dedicated to breaking the law and damaging property; it has nothing to do with art'. Graffiti vandals often tag signs, walls or structures with letters, otherwise known as their monikers in the graffiti world, police said. The greater the visibility of their monikers, the more satisfaction they derive from the crime. 'I've actually arrested a graffiti vandal and on his fourth or fifth arrest, he broke down crying and said he couldn't stop', Black said, referring to the addiction component of the crime.

The new law reinforces the state's zero-tolerance policy toward graffiti, stemming from Nevada's reliance on tourism and large number of protected sites and landmarks, officials said. 'You have a community with rampant graffiti, you are going to have rampant crime', Black said. 'That's why it's a wonderful thing for the citizens for the state of Nevada that we're essentially declaring a war on graffiti'.  
(Provided by Robert Mark)

### **Teen gets prison in Red Rock graffiti case**

By Jeff German, *Las Vegas Review-Journal*  
11 August 2011

The desecration last year of pre-Historic artwork at the Red Rock Canyon National Conservation Area sparked outrage and focused attention on the spread of graffiti throughout the Las Vegas Valley. This week, the 17-year-old youth charged with defacing the Red Rock area received his punishment behind closed doors in federal court, ending a case that rallied the community to help remove the spray-painted graffiti.

U.S. District Judge Kent Dawson on Wednesday sentenced the unidentified youth to nine months behind bars, which he already has served. The judge also placed him on nine months of supervised release and ordered him to pay \$23 775 in restitution to the U.S. Bureau of Land Management.

The defaced rock art panels on Aztec sandstone slabs and walls contain pictograms, painted symbols the BLM estimates are 1000 years old. One slab has a petroglyph that might be older. BLM spokeswoman Kirsten Cannon said Thursday it cost roughly \$24 000 to restore the ancient artwork. All of the money came from private donations. John Hiatt, president of the Red Rock Audubon Society, which has closely followed the case, said he was pleased to hear about the sentencing. 'It's good that he's getting punished, so other people will see that they can't just damage archaeological resources with impunity', Hiatt said. 'The legal system is starting to recognise that these resources are irreplaceable and, without real protection, we will lose them forever'.

In a news release, Natalie Collins, a spokeswoman for the

Nevada U.S. attorney's office, said the youth pleaded guilty to two federal charges: unlawful defacement of archaeological resources and wilfully injuring or committing depredation against property of the United States. The youth, whose identity has been withheld because he is under 18, committed the acts on 24 and 25 July of last year. 'Public lands are for everyone's use', Cannon said. 'It's disheartening when this happens'.

Cannon said the publicity surrounding the crime helped the BLM create more awareness about graffiti in the 198 000-acre Red Rock area, most of which occurs in restrooms and on signs and trash cans. 'We've had more volunteers come out to remove graffiti', she said. Initially, there was a spike in onlookers at the vandalised site, but that waned as the cleanup efforts began this spring, Cannon said. Authorities think the defendant is a member of the NHC tagging crew, vandals who paint graffiti together around southern Nevada. 'NHC' has several meanings, including Nasty Habits Crew.

The Red Rock graffiti was discovered by hikers in mid-November. It included the street names 'PWE', 'RODO' and '64C'. Las Vegas police arrested the youth in December, and he was later charged with the federal crimes. Dawson on Wednesday imposed several special conditions on the youth during his nine-month supervised release, including barring him from entering any national parks, forests or recreational areas. He also must undergo substance abuse treatment, participate in a life skills program and earn a general equivalency diploma. He cannot possess any firearms or explosives.

(Provided by Robert Mark)

### **Stolen petroglyph returns to canyon after rocky journey**

By Carri Geer Thevenot, *Las Vegas Review-Journal*  
16 July 2011

Leroy Howell scrambles up the rocks of the canyon wall and lays his eyes on what he has come to inspect: a 300-pound boulder bearing the distinct images of several bighorn sheep.

Thoughtlessly — and illegally — snatched from its original resting place in the Spring Mountains National Recreation Area sometime in 2008, the petroglyph wound up on display in a remote Pahrump front yard until an alert narcotics detective spotted it the following year while serving a search warrant. It then sat for the better part of two years in a U.S. Forest Service evidence room in northwest Las Vegas until the thief's case wound through the legal system and federal officials figured out the best way to return it where it belonged.

On this clear July 1 day, after a helicopter has delivered its sacred bounty back to the canyon from which it came, Howell, a member of the Pahrump Paiute Tribe, speaks softly to the petroglyph he has known since childhood: 'Back home, huh?' Then, to no one in particular, he adds, 'It looks beautiful. I'm sure it's glad to be back home itself'.

While rock art is prized by many for its aesthetic and historical value, tribal members see it as much more. To them, petroglyphs and pictograms are not objects of art. 'They're important religious objects that tell stories', says Richard Arnold, chairman of the Pahrump Paiute Tribe, one of seven

Southern Paiute tribes.

At the April sentencing hearing for Michael Cook, the 58-year-old real estate agent and auto mechanic who stole the petroglyph, Howell equated Cook's crime to 'taking the Bible and ripping it in half'. Senior U.S. District Judge Edward Reed Jr. acknowledged the serious nature of the offence — and the need to deter other would-be thieves — when he sentenced Cook to six months in prison: 'It's a religious symbol of great importance to the tribal members, and that's a factor I think I can fairly take into consideration here, and I will. ... I think it's part of our heritage for all of us. These petroglyphs are something that can never be reproduced, and they're evidence of our past history'.

Kelly Turner, district archaeologist for the U.S. Forest Service, says Cook's case is also noteworthy because it yielded Southern Nevada's first felony conviction under the federal *Archaeological Resources Protection Act* since 2003. Turner led the effort to return the stolen boulder to its original home and says she never considered any other options. 'It doesn't belong in a museum', she says. 'It's kind of like caging a bird'.

The boulder stolen by Cook has seven bighorn sheep chipped into its front panel. Another sheep on its back side appears older because of the image's darker colour, archaeologist Turner says.

Cook claimed he used a rope to pull the free-standing boulder down into his truck. Turner believes that he first shoved it onto a lower rock art panel, damaging that panel in the process. She also is convinced that he had help. At least three men have been needed to lift the 300-plus-pound boulder each time it has been moved since it was found on Cook's property. It is approximately 3 feet long, 2 feet wide and 15 inches high. Turner has no idea why the boulder didn't shatter when it was shoved off the cliff where it was perched. New chips are visible around its edges. 'It's truly amazing there's anything left', she says.

(Provided by Dr Robert Mark)

### **Man gets 15 months for shooting paint balls at petroglyphs**

By Steve Kanigher, *Las Vegas Sun*

Monday, 22 August 2011

A 21-year-old Arizona resident received a 15-month federal prison sentence today after pleading guilty to using a paint-ball gun to shoot at petroglyphs in the Lake Mead National Recreation Area in March 2010, Nevada's U.S.

Attorney Daniel Bogden said. David Smith of Bullhead City also was ordered by U.S. District Judge Philip Pro to pay \$9995 in restitution and perform 50 hours of community service.

Smith was sentenced following a two-hour hearing in which members of six Colorado River Native American tribes addressed the court. He pleaded guilty on 18 May to unlawful defacement of an archaeological resource, a felony violation of the Archaeological Resources Protection Act.

Smith admitted that while he was in Grapevine Canyon, he shot paint-ball pellets at Native American rock art panels and petroglyphs. The canyon lies within the Lake Mead National Recreational Area and is just west of Laughlin. The area contains more than 700 petroglyphs and numerous rock shelters, and is listed on the Interior Department's National Register of Historical Places.

Smith admitted that when he entered the canyon, he passed signs stating that it contained cultural resources and that it was illegal to damage and deface them. He also admitted he knew the petroglyphs were important to Native Americans. Smith used a fully automatic paint-ball gun and oil-based pellets to shoot at the petroglyphs. Roughly 38 areas containing petroglyphs were defaced, and hundreds of paint balls were scattered and recovered from the canyon. A National Park Service ranger responded to the scene, following a report that individuals were in the canyon with spray paint. Smith was with two other individuals, including a 12-year-old boy.

Colorado River tribes view the Grapevine Canyon area as sacred and believe it is the birthplace of many tribes. Archaeologists believe the area has been inhabited and used by humans for at least 1100 years. This investigation was conducted by the National Park Service, and was prosecuted by Assistant U.S. Attorneys Kathleen Bliss and Nadia Ahmed.

(Provided by Dr Robert Mark)

These recent reports from Nevada and Arizona, two US states rich in rock art, show that vandalistic practices of site visitors have attracted increasing attention from both law enforcement agencies and lawmakers. In addition to attracting severe prison sentences, graffiti vandals can expect to pay for restitution, and in the case of rock art sites, graffiti removal can be very costly. But from the researcher's perspective, the motivations of the perpetrators defined in these reports are perhaps particularly interesting (ed.).

### **The best things in life tend to be free!**

At 99.95 euros the new book *The human condition* (August 2011, Springer, New York) is no bargain, but it is still a worthwhile investment. However, the key elements in it are summarised in the article 'The origins of human modernity', which has just appeared (*Humanities*, Volume 1, Issue 1, pp. 1–53, doi:10.3390/h1010001).

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## Rock art seen in a global perspective

ROBERT G. BEDNARIK

Rock art is a widespread phenomenon, occurring in nearly all countries. Its uneven distribution across all continents except Antarctica is, however, not so much attributable to differences in cultural conventions; it is primarily a taphonomic attribute, i.e. a result of preservation bias. For instance, the high-pH and low precipitation regimes of arid and semi-arid regions have greatly facilitated the preservation of rock art in various parts of the world, such as the Sahara, Arabia, central Asia, the American Southwest, some Andean regions and Australia. Another major determinant of rock art distribution is geology. Some of the largest surviving concentrations are those found in the sandstone facies of the former Gondwana plate, i.e. in southern Africa, India, Australia and north-western Brazil. These sandstone deposits have facilitated the formation of rock shelters that provide excellent preservation conditions, especially for rock paintings. Similarly, the practice of Upper Palaeolithic rock artists to place some of their productions in deep limestone caves has significantly helped the survival of some of that period's rock art in one part of the world.

Rock art is a somewhat arbitrary term describing non-utilitarian humanly made markings on natural rock surfaces, made either by an additive (the *application* of material) or a reductive process (the *removal* of rock material). The former result is called a *pictogram* or rock painting and this form includes also pigment drawings, stencils and beeswax figures; the latter is a *petroglyph* or engraving, sometimes called carving. The term rock art is usually not applied to human markings on prepared or dressed stone surfaces, such as may be found on buildings or rock-hewn structures. Nor does it include humanly made but unintentional rock markings (such as those occasioned by bulldozers or steel cables), utilitarian rock markings (e.g. drainage channels on axe grinding panels) or markings made by non-human animal species, even if made 'deliberately' (e.g. certain forms of cave bear claw marks in European caves). Broadly speaking, the term rock art refers to anthropic (humanly made) markings on natural rock surfaces; they may be pre-Historic or Historic, and they may occur in caves or out of caves.

Pre-Historic rock art represents by far the largest body of evidence we possess of humanity's cultural, cognitive and artistic beginnings. Through its relative permanence, it has profoundly influenced the beliefs and cultural conventions of subsequent societies up to the present. It is therefore an integral part of humanity's collective memory, and the greatest surviving witness of our cultural evolution.

### Geographical distribution of rock art

The pre-eminence of the Franco-Cantabrian cave art in south-western Europe has in some respects overshadowed the appreciation of the many other rock art traditions of Europe, and indeed of the rest of the world. In France, for instance,

the extensive corpus of Fontainebleau receives scant attention, simply because it is of the Holocene (more recent than 10500 years) rather than the Late Pleistocene (Ice Ages). Much the same can be said about Spanish traditions, such as the Galician petroglyphs or the Levantine paintings. Alpine petroglyphs have fared somewhat better, especially in the western Alps at Mont Bégou and southern Alps in the Tellina and Camonica valleys. There are scattered sites or smaller concentrations in nearly all European countries, but the only other major series of sites extends across Scandinavia, from Denmark and Norway to Karelia. It comprises mostly petroglyphs, but pictograms do occur, especially in Finland and Norway. Little is known about the rock art of the Balkans and Greece, but there appears to be a fair amount of it. Portugal, Britain and Ireland are well endowed with petroglyphs, typically non-figurative. Most of European rock art has been attributed to the Metal Ages, some may be older, and traditions that are more recent certainly exist. It needs to be cautioned that credible dating is rarely available, and revisions still have to be anticipated. For instance, the Scandinavian petroglyphs are mostly attributed to the Bronze and Iron Ages, but it is possible that more recent people, such as the Vikings or the Saami, were involved in their making.

Asia, of which Europe is only a small appendage, comprises several large bodies of rock art that surpass numerically any European regional corpus. Most of the countries of the Middle East are rock art rich, especially Saudi Arabia, Iran and Israel. Here, early inscriptions often occur alongside petroglyphs, helping to unravel the chronology, and suggesting that much of the art dates from between 1400 and 3000 years ago. With the advent of Islam, rock art production was severely reduced although practices did continue. The rock art of the Caucasus region has only begun to attract interest recently, and very little is known about Turkish or Yemeni rock art. Researchers have noted the occurrence of concentrations in Pakistan, but so far no research of substance has been conducted there, while in the several countries to the north, it has only begun in the most recent years. Across central Asia, including the Tibetan Plateau, there are numerous reports of rock art, but a great deal has been destroyed by Moslems, for instance along the Silk Road. Much better explored is the rock art of Siberia, of which concentrations appear along the Yenisey and Lena rivers. In Mongolia, the greatest assemblages are found in the Altai Mountains. The impressive iconography of the central Asian regions, sometimes dominated by apparently human faces described as 'masks', or by extraordinarily ornate 'deer stones', continues into China, especially in the Ningxia Province and Inner Mongolia. Among the more than 10000 Chinese sites, those in the north are almost entirely of impact petroglyphs, while the situation is reversed in southern China. Nearly all rock art there is of pictograms, especially in the

rock art-rich Yunnan Province, or in Guangxi Zhuangzu with its incredible site at Huashan, where monumental paintings extend to forty metres height.

Japanese rock art is mainly found in small occurrences on boulders and stelae, but information is often unreliable. The countries of South-East Asia all feature rock art, but publications are very sparse and no researchers have worked in most areas. A notable exception is Borneo, with its numerous limestone cave art sites of paintings and stencils. In the Philippines, sound ethnographic observations concerning cave paintings are available from Palawan. India offers one of the largest and best-explored rock art bodies in Asia, with paintings dominating in all provinces except in the far north and northwest, in the Deccan and the extreme south. The richest repositories are found in the rock shelters of the central regions, particularly in Madhya Pradesh. They include the best-known Indian site complex, Bhimbetka, of about 500 painted shelters.

Africa, too, boasts some massive rock art concentrations. These begin with the several art regions of the Sahara, extending from Morocco to Egypt. The arid conditions have greatly facilitated the preservation of rock art of the last six millennia. In terms of its artistic finery, Saharan art is matched by few traditions, one of them being the Bushmen/San rock paintings of southern Africa. Other painting and petroglyph traditions occur also in that region, and the Pleistocene finds of portable paintings in Apollo 11 Cave, Namibia, imply that very early traditions once existed. Other portable art from Africa is even older, but little African rock art has been convincingly demonstrated to be of the Ice Age. There are extensive corpora of rock art in Tanzania, Kenya, Gabon, Sudan, Ethiopia and smaller occurrences in probably all remaining African countries, but as in Asia, there are also great gaps in our knowledge of distribution.

The situation is considerably better in Australia, where all major rock art regions have been identified and the issue of antiquity is somewhat clearer. The major bodies in the rock art-richest country are the petroglyphs of the Pilbara, the paintings of the Kimberley and Arnhem Land, and the mixed rock art of the Victoria River District and Cape York Peninsula. Other notable complexes are the stencil-dominated sites of central Queensland, especially in Carnarvon Gorge, the Sydney sandstone petroglyphs and those of the Olary district in South Australia. In general, the number of sites increases from south to north, with the limestone cave art along the southern coast forming an unusual feature. A remarkably large part of Australian petroglyphs seems to be of the Pleistocene, having been estimated to be as great as 10% of a corpus thought to be well in excess of 100 000 sites overall. Many of the islands of Oceania are also well endowed with rock art, among them New Guinea, where a major concentration of cave art is currently being discovered, and in New Caledonia, New Zealand, Hawaii and Rapa Nui (Easter Island).

Canada's rock art is comparatively sparse, with minor concentrations in British Columbia and relatively isolated finds in most other states. The United States, by contrast, has major occurrences, especially in the south-western states. The Chumash paintings and Coso Range petroglyphs in California,

the numerous sites across Utah, Arizona and New Mexico all form a massive body composed of many traditions. Most other states also contain rock art where suitable conditions pertain. In terms of antiquity, North American rock art seems to be consistent with most of the rest of the world: all or nearly all the rock art is of the Holocene. The western art province continues in the neighbouring Mexican states of Sonora and Chihuahua, with notably impressive painting sites in Baja California. Smaller concentrations occur in much of Central America, and there is hardly a major island in the Caribbean that lacks rock art. In both regions, paintings as well as petroglyphs occur.

All countries of South America feature rock art sites, but the major corpora are found in the Andean region, from western Venezuela all the way south to Patagonia. The largest single site of the continent is perhaps Toro Muerto in southern Peru, consisting of a few square kilometres of petroglyphs. Other notable occurrences in Colombia, Bolivia, Chile and Argentina have been subjected to detailed study, as have the extensive traditions of north-eastern Brazil. In most of South America, petroglyphs occur alongside pictograms.

### **Temporal distribution of rock art**

The geographical distribution of global rock art is thus relatively well established, even though the regional details are often still of poor resolution. Its temporal distribution, however, remains surrounded by uncertainties and controversies. In part this is due to the very limited credible dating work conducted so far, but it is also the result of almost countless unfounded age claims from many parts of the world, and their often specious but strenuous defence. The usually stylistic rock art sequences we have invented in many world regions are often based on spurious evidence or frivolous notions. To select one example, the chronology of the massive corpus of Saudi Arabian rock art is based on the work of one single scholar who wrote four books about it without ever having set foot in that country. He invented more than twenty styles for southern Arabia, none of which was found to represent a temporal group. Most co-existed in pre-literate as well as post-literate times, as shown by thousands of accompanying inscriptions. For one of these styles, even an ethnic Negroid group was invented, on the strength of perceived head shapes in the anthropomorphs. When scientific dating and colorimetric sequencing tested this chronological sequence, it was found to be false in almost every detail.

Similar invented rock art chronologies have been inherited by the discipline in many parts of the world, and are difficult to displace. Eurasia and the Sahara have been particularly fertile grounds for the invention of styles, traditions and cultures, and for reifying these constructs by providing them with names, identities and notional datings. In particular, there has been a tendency to claim Pleistocene antiquities for rock art that is in fact significantly younger. This has commonly occurred across northern and central Asia, where at present no confirmed Ice Age rock art is known, as well as in parts of Europe. Ice Age rock art occurs at many sites of south-western Europe, but it is thought to be far more common in Australia, where favourable environments and a historical absence of iconoclastic traditions have facilitated

preservation. All Pleistocene rock art of Australia is of cultures of Middle Palaeolithic technologies, whereas in Europe it all seems to belong to Upper Palaeolithic tool industries. The only exception there is the earliest rock art known in Europe, a series of small cupules (cup marks) found on the underside of a limestone slab placed over the grave of a Neanderthal child, in the French cave La Ferrassie.

The oldest currently known rock art, however, was found in the Indian state Madhya Pradesh. So far, the Lower Palaeolithic antiquity of about 550 cupules (hemispherical petroglyphs, sometimes called cup-marks) and four engraved lines in two quartzite caves, Auditorium Cave (Bhimbetka) and Daraki-Chattan, has been confirmed by excavation. At the first site, two petroglyphs were encountered in an archaeological excavation; in the second cave, about thirty had exfoliated from the walls and were recovered in occupation strata, together with numerous hammerstones that had been used in making these markings on the extremely hard rock. Similar petroglyphs at a few other sites in the region may prove to be of comparable age, and cupules recently found at a few sites in the southern Kalahari of South Africa are attributed to the Middle Stone Age. At two of these sites they may even be of the Fauresmith, an earlier handaxe tradition. Remarkably, the oldest known rock art of both Americas, although significantly younger than that found in the three Old World continents, also consists typically of cupules and linear grooves. It may be tempting to see this as an indication of a universal culture of archaic *Homo sapiens*, expressed also in wide-ranging consistencies in Middle Palaeolithic stone tool typology. However, if the oldest types of rock art, the world over, are also the most deterioration resistant, taphonomic reasoning suggests that it is likely that cupules are not the earliest form of rock art produced. They simply had better prospects of survival than more ephemeral forms of art.

Rock art of the Pleistocene remains a very rare phenomenon, always limited to exceptionally favourable preservation conditions. Its surviving instances do, however, increase in number towards the end of the Pleistocene. Present indications of rock art ages suggest a significant increase of quantity during the early to mid-Holocene, perhaps 7000 or 6000 years ago. Large corpora in arid regions begin simultaneously around that time, which is again perhaps a taphonomic phenomenon rather than an indication of cultural practice. In temperate regions, large bodies of surviving rock art first appear by the Neolithic or Bronze Age, where local lithologies are suitable. Finally, in regions of limestone and other less weathering-resistant rock types, rock art at open sites typically begins occurring after 2000 years ago. Therefore the temporal distribution of rock art is universally related to preservation issues, especially those of lithology and climate.

In Europe, Palaeolithic cave art has been reported from over 400 sites, but the art's attribution to the Pleistocene has remained intangible at many of these sites. For instance, there is currently no validated claim for Palaeolithic rock art in central or eastern Europe, despite many such postulates having appeared. Similarly, various claims made about the occurrence of Palaeolithic rock art at open schist sites in the Iberian Peninsula remain unsubstantiated by scientific dating evidence.

### Rock art research: a historical review

The total number of known cave art sites worldwide is under one thousand, while the number of open rock art sites is likely to be up to one million, and they often present vastly greater numbers of motifs than the cave sites. Yet, in comparison to European cave art, their study has been relatively neglected. For instance, no publication about Chinese rock art had appeared in English until 1984, although the earliest literary mention of rock art is from China. The philosopher Han Fei (280–233 BCE) provided the first known reference to rock art, while the geographer Li Daoyuan (386–434 CE) described numerous rock art sites in China and even mentioned occurrences in India. In South America, Captain De Carvalho found rock art in 1598 in what is now Brazil, and published his recordings in 1618, while in Europe, the first known recordings, made by Peder Alfssön in Denmark in 1627, were not published until 1784. More determined scholarly efforts commenced during the 19th century, focusing initially on Russia, Scandinavia and northern Africa, later on southern Africa, parts of South America, Australia and eventually India.

With the beginning of the 20th century, after archaeology finally accepted the authenticity of Franco-Cantabrian cave art (which it had strenuously rejected for decades), the study of rock art became nominally integrated into mainstream archaeology. However, this merely promoted the proliferation of simplistic stylistic constructs and the development of various unproductive methods. For instance, some archaeologists considered that taxonomic constructs and statistical analyses of stylistic or morphological matrices of motif types would provide empirical interpretations, in the same way other artefacts were classified and interpreted statistically. However, rock art usually has no archaeologically perceptible time depth, and most major rock art sites are cumulative assemblages deriving from different eras. Lumping these different traditions together and treating them as a 'style' because they happened to occur at the same place served no useful purpose, and this is even before the complex issues of selective survival are considered. Thus the greatest barrier to integrating rock art successfully into archaeology was the intractability of its dating. Worldwide, there have been only about twenty instances of reasonably convincing minimum dating by finding rock art under supposedly datable sediments.

Archaeological age estimations, generally by considerations of style and 'content', have varied greatly for specific corpora. For example, there is a distinctive tradition of shelter paintings in eastern Spain, the Levantine genre. Over the course of the second half of the 20th century it has been attributed to every single archaeologically perceived cultural period from the Perigordian to the Iron Age (i.e. to every age from about 35000 to 2500 years ago), yet its true age, now thought to be Neolithic or later, remains still unknown. Much the same applies throughout Eurasia. In Portugal and western Spain, a corpus of engravings known to be no more than a couple of centuries old was consistently described as being from 20000 to 30000 years old. These and hundreds of similar examples suggest that age determination of rock art by stylistic or archaeological means is tenuous at best.



The paradox is that, without some idea of its age, rock art has little archaeological relevance, and it is difficult to separate components of different traditions at sites. Some archaeologists have suggested that the study of rock art should best be left to ‘specialists’; others have vigorously opposed this view. The last few decades of the 20th century witnessed the emergence of rock art research organisations in many parts of the world, beginning in North America, Australia and western Europe. In 1988 these bodies formed the International Federation of Rock Art Organisations (IFRAO), which currently has forty-nine affiliated member associations, covering in effect most of the world. One of their principal aims is to introduce scientific methods, grounded in such diverse disciplines as geology, semiotics, ethnography or cognitive science. This trend is currently replacing interpretative endeavours with contextual studies, and concerns with meaning are giving way to epistemological rigour.

One of the priorities in contemporary rock art research is the development of methods for estimating the age of rock art motifs. During the 1980s, this led to the replacement of stylistic or iconographic dating by forms of ‘direct dating’, in which the age of dating criteria physically and directly related to the rock art is determined. Propositions of the chronological relationship of these criteria with the rock art must be testable, i.e. refutable. The dating criterion may be of the same age as the rock art (e.g. an organic binder contained in the paint residue of a pictogram, or the fracture surfaces caused by the impact that occurred when a petroglyph was made); or it may be older than the rock art (e.g. its support surface, or a lichen thallus dissected by an engraved line); or it may be younger than the rock art (e.g. a superimposed insect nest, or a mineral accretion concealing the art). There are numerous types of such directly relatable criteria, most of which have been provided by geochemistry so far. However, direct dating offers no actual ages of rock art; it merely generates testable propositions about the relevance of specific physical or chemical data to the true age of rock art. The interpretation of this relationship demands an understanding of the method used, of the circumstances of sample collection, and of the limitations applying to stated results. The principal difficulty experienced with this approach is that the interpretation of its results is usually contingent on such complex qualifications that they are difficult to relate to immediate concerns of archaeology. To practitioners seeking certainties, expressions of probabilities or intricate formulations of explanatory scenarios are frustrating and seem to limit the practical use of such data.

While the scientific study of rock art, introduced only during the 1980s, may still be in its infancy, it is not limited to issues of antiquity. Investigations of the technology of rock art have involved several productive approaches, including the study of the tools used in making petroglyphs, of paint recipes, of microscopic inclusions found in paint residues, and of the sourcing of pigment materials. Nano-stratigraphy — the microscopic excavation of strata of paint residues, mineral accretions or weathering and patination zones — was first introduced in the 1970s, and has been developed to great sophistication already. Its principles are rather similar to those of archaeological stratigraphy, but its methods,

obviously, are very different. To some extent, this method might even overcome the limitation of rock art being, in contrast to archaeological sediment strata, apparently two-dimensional.

Various other issues have been explored by rock art science in recent decades, such as the establishment of criteria for the effective discrimination between humanly made rock marks and natural markings on rocks. This had been a major problem in archaeology, with hundreds of cases of misidentification of both types of rock markings. Most of these mistakes refer to petroglyphs and natural markings resembling them, but there are also a few prominent cases of pictograms on record. One of the most promising areas of scientific investigation of rock art concerns the holistic analysis of its physical, cultural and cognitive contexts. This includes the examination, often by field microscopy, of traces related to the production of rock markings, especially in well-preserved condition (particularly in caves). The methods used closely resemble those of forensic science (matching of microscopic striae, identification of microscopic organic traces and so forth), and are designed to determine the gestures involved in making the rock art. Their results can be correlated with other evidence in the same context.

Recently, a trend has become evident to explore the cultural and cognitive development of humans through rock art, especially of the Pleistocene period. Cognitive evolution, informed by advances in neuroscience and psychology, is increasingly becoming relevant to the understanding of the earliest art — and vice versa. Pleistocene rock art and portable art-like productions can provide evidence that may help test particular models as to how human cognition may have eventuated and developed. As research into cognition and neuroscience continues apace, rock art and other paleoart become primary data sources for it. Underlying principles and universals need to be identified, and the material of the Middle and Early Upper Pleistocene requires much more attention than has been evident in the 20th century. This reflects another change from traditional preoccupations to new approaches in the 21st century. It will endeavour to place Pleistocene paleoart into the context of cognitive evolution, explore its semiotic dimensions, and consider implications for technology and culture during the Palaeolithic period.

### **Recording and interpreting rock art**

Since rock art has begun to be recorded, centuries ago, the purpose of such records has always been to create a visual register of those aspects of the art that were deemed important. This has remained so until quite recently, and it follows that rock art recordings are usually interpretations of individual observers, not objective data. Indeed, this principle is embodied in a ruling of the High Court of Austria in 2003, that rock art recordings are copyrighted because they are individual interpretations by the recorder. This is now changing with the introduction of sophisticated digital recording systems that yield much more objective results.

Nevertheless, the ready availability of computer equipment and electronic image manipulating software does not necessarily obviate other recording techniques. The discipline has in the past made the mistake of ignoring useful

approaches, such as rock surface cartography. It would be precipitate, therefore, to jettison all earlier methods, but it is certainly appropriate to discard all those that are invasive or threaten the research integrity of rock art. Many of the latter have been used extensively in the past, but there is absolutely no justification now to continue with any of them. These physical enhancement methods have included the application of clear liquids to close the pores of silica skins or other thin accretions, thus improving photographic records. The liquids used in this have ranged from water to motor oil, from kerosene to clear lacquer. Another common practice has been the outlining of rock art with chalk and a variety of other markers, including dye, pencil, lipstick and felt pen. Archaeologists have contaminated the geochemical fabric of thousands of square metres of petroglyphs by applying organic white and black paints, to facilitate manual recording. The use of pressure-sensitive films, rubbings made with a great variety of materials, the production of casts from latex, plaster of Paris, *papier mâché*, thermoplastic resin and so forth have all been found to affect the rock art, and in some cases have caused spectacular damage to it. The use of transparent film to copy the art can also be damaging, because these sheets tend to be electrostatic and the movement of pens or fingers can attract small flakes of material from paintings. Even the use of aluminium foil tamped gently into petroglyphs before it is backed by stiffer material, regarded as a reasonably safe method, has at last been opposed by a chemist working with rock art.

There is one very simple rule now in rock art recording: unless the 'art' in question is about to be destroyed by other factors, no invasive method, no contact is acceptable. The first consideration in all rock art recording work must be that it would be selfish to prejudice any future analytical methods rock art scientists will bring to bear upon the rock art, centuries from now. Since we have not the faintest idea what these future methods will involve, there is only one possible solution: all rock art recording today must be by non-invasive methods, except in circumstances where the rock art is subject to other imminent threats.

There is no need to resort to damaging and superseded methodology. Photography, sometimes in combination with non-contact enhancement techniques, is now universally available. Raking light photography (oblique lighting at night) is far more effective in recording petroglyphs than manual recording, which is a cumbersome and subjective procedure. It can be most conveniently accomplished with battery-powered movie lights. A variety of filters and special films are available to improve photographs of rock art. Cross-polarised photography, using two light sources with polarising filters, can greatly enhance contrast. It is important that a calibrated colour and grey scale be included on all rock art photographs. The IFRAO Standard Scale is now universally used worldwide. This has a number of purposes, the foremost being the facility of colour re-constitution. All photographic records are of distorted colour, and all of them fade with time, therefore a colour profile included on a photograph permits the digitised recovery of original colour of the object at the time the image was taken.

The equipment now widely available to rock art recorders

includes high-resolution digital cameras which, combined with the use of laptop computers in the field, have revolutionised rock art recording. Photographs can now easily be colour corrected on site, as soon as they are taken, right at the panel being recorded. The digital image processing programs now available have replaced the laborious enhancement procedures of the 1980s. In addition to this basic system, several more sophisticated recording options have recently become available. Some remain very expensive but, judging from previous experience, it is only a matter of time before they, in addition, become stock-in-trade, and ever more powerful tools are introduced at the high end. The use of photogrammetry, which has been sporadic in rock art survey work, has experienced a revival due to the introduction of digital elevation model (DEM) software. This can generate accurate three-dimensional recordings of petroglyphs. An alternative approach is the use of laser scanners to produce virtual digital models of great accuracy and versatility. This technique evolved from the need to record the topography of groove shapes, such as those of Scandinavian rune stones. Manual groove topography of petroglyphs, still done in the late 1990s, has now been superseded by automated laser scanning. It yields visualisation algorithms that facilitate the use of such recordings in the application of computer-assisted drawing (CAD) programs to rock art, which can create virtual rock art sites. Micro-topography of rock art has also been attempted with a CCD camera by obliquely projecting a grating fine grid (40 lines per mm) over the rock art.

The alternative method of reproducing panels or sites is the production of physical rock art facsimiles. This has been used for several decades, but only sporadically because of the high cost involved. The most celebrated rock art facsimile is Lascaux 2, a partial copy of the famous cave in France. Having been created at the cost of \$8 million, it is now viewed by about half a million tourists per year and its cost has been recovered many times over. Facsimiles are constructed by first acquiring the necessary topographic data, traditionally either by photogrammetry or the use of precision theodolites, but more recently by laser equipment. The rock panel is then recreated and the rock art projected onto it. This process is very laborious and involves considerable artistic skills.

The interpretation of the iconography of rock art, i.e. what it is thought to depict, its meaning and its cultural role in ancient societies have been the primary preoccupations of researchers for centuries. There are, however, significant limitations to our access to these intractable dimensions of rock art. Most rock art motifs are not adequately detailed naturalistic depictions of objects to permit reliable identifications, and such pronouncements are almost never testable for pre-Historic rock art. The only blind test ever conducted, of the ability of a researcher to effectively identify meaning in rock art, was undertaken in 1977 in Australia. More than 20 years after an anatomist had 'identified' the numerous zoomorphs and anthropomorphs depicted at a site, he discovered that some of the artists or their immediate relatives were still alive, so he took these experts to the site to tell him what each motif depicted. He found that 90% of his identifications were wrong, and he discovered that a beholder who is not an intimate participant of the culture could not

determine the relationship of apparently juxtaposed images. He also reported that to correctly associate and integrate individual motifs into a whole to ‘express the purpose and thought context of the paintings’ was totally dependent upon direct cultural information. Such access is of course usually impossible to pre-Historic cultures; therefore, it would be imprudent to rely on the ‘identifications’ of scenes, figures or artistic intentions by contemporary scholars posing as experts. Our own perception does not define reality, and even less can it define the realities perceived by people of other cultures. Our interpretations are freestanding constructs involving autosuggestion, reflecting our interpreting intellect, conditioning and perception. They are not necessarily false, but their veracity is untestable and on balance they need to be regarded as reflections of the way we interpret reality — which we need to assume differs from the reality construct, cognition, and visual or mental perception of the now mute artist.

All interpretations of rock art by present-day people, be they archaeologists, children or anyone else, are of scientific

value only to psychologists studying the perception and cognition of modern people. They are of absolutely no other relevance to rock art science, which is purely about testable or falsifiable propositions about rock art.

### Postscript

Humanity lavishes billions of dollars annually on its art objects, art repositories and art industry. By comparison, its endeavours to look after its oldest and most valuable art treasures are miniscule (except in France). Despite its appearance of relative robustness, rock art is quite fragile, and what we see today is only the tiny surviving fraction of what was once created. It is an irreplaceable resource and its study and preservation need to be given much greater priority than what has been seen in the past. The thousands of rock art researchers around the world have produced a good deal of specialist literature, especially in the last two or three decades. But in stemming the tide of rock art destruction this has not yet stemmed the tide of rock art destruction.



## Forthcoming rock art conferences

### Archaeology and Rock Art 25 years SIARB

The IFRAO Congress of 2012 is to be held in La Paz, Bolivia, from 25 to 29 June 2012. For details see *RAR* 28(2), pp. 280–284. Potential contributors are invited to submit title and abstract (c. 100 words) of their proposed paper to one of the chairpersons listed for the fifteen symposia.

The official languages of the congress will be Spanish, Portuguese and English. However, in exceptional cases, a presentation may be in a different language as well.

Before and after the academic program there will be rock art excursions. The detailed excursion program will be defined later. We expect to be able to offer trips to archaeological and rock art sites in the lake Titicaca region and in other parts of Bolivia, such as Santa Cruz and Tarija.

Further information about the congress is available at <http://www.siarbcongress.org/>

### Ancient Hands around the World ARARA-IFRAO Congress 2013

The IFRAO Congress of 2013 will be held in Albuquerque, New Mexico, U.S.A., from 26 to 31 May 2013, and will be hosted by the American Rock Art Research Association (ARARA).

Session proposals close on 31 December 2011. All organisations and individuals interested in rock art are invited

to submit a proposal for a session, which can be either specialised or general in topic. The official languages of the congress will be English and Spanish. Sessions should be chaired by at least two individuals, and session proposals should include the following:

- Title of session
- Name, affiliation, and e-mail address of the session organisers.
- Session abstract (limited to 300 words).
- List of prospective presenters. Note: presenters need not be confirmed at the time of the proposal.

E-mail the proposal information to:

Mavis Greer at [mavis@greerservices.com](mailto:mavis@greerservices.com)

*Important dates:*

31 December 2011: Deadline for session proposals.

15 January 2012: Last day for review of session proposals and notification of acceptance.

31 May 2012: Deadline for session presentation abstracts to be submitted to Session Chairs.

15 June 2012: Last day for review of session presentation abstracts and notification of acceptance.

15 December 2012: Deadline for formal written articles to be submitted from Session Chairs to the Program Committee.

28 February 2013: Deadline for formal written articles to be submitted to the Publication Committee from the Program Committee.

Further information about the congress is available at [http://www.arara.org/2013\\_ifrao\\_conference.html](http://www.arara.org/2013_ifrao_conference.html)

## First International Rock Art and Ethnography Conference

July 2014, Cochabamba, Bolivia

The First International Rock Art and Ethnography Conference will be hosted by IFRAO member Asociación de Estudios del Arte Rupestre de Cochabamba (AEARC) in the third week of July 2014. It follows the successful First International Cupules Conference of 2007, in the same town, and will be chaired by Professor Roy Querejazu Lewis, the IFRAO Representative of AEARC.

This event is planned to include four days of presentations and discussions, followed by four days of field trips to rock art sites in central Bolivia. Four sessions are planned for the conference, according to the following topics:

1. Ethnographically recorded rock art production.
2. Rock art sites as sacral spaces.
3. Ceremonial use of rock art sites, past and present.
4. Traditional interpretations of rock art sites.

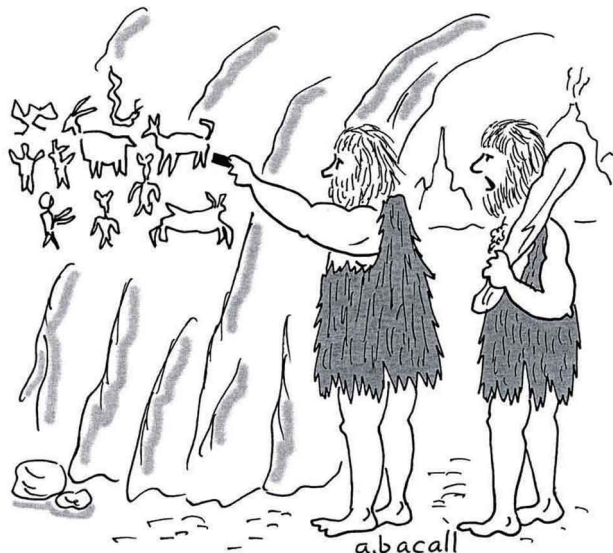
Potential participants are requested to consider contributing presentations to one or more of these sessions. Enquiries concerning any aspect of the event are welcomed by:

Roy Querejazu Lewis  
AEARC  
Casilla 4243  
Cochabamba

Bolivia

E-mail: [aearc@gmail.com](mailto:aearc@gmail.com)

**Fourth AURA Congress:** to be held in Australia in 2016. Proposals are invited concerning all principal aspects of the event, such as site, venue and fieldtrip opportunities.



'In the future, that should produce thousands of PhD theses'.

## AURA Treasurer's financial statement 2010/2011

ELFRIEDE BEDNARIK

**Balance in hand on 30 June 2010: \$9864.75**

| INCOME:        | \$             | EXPENDITURES:                  | \$             |
|----------------|----------------|--------------------------------|----------------|
| Sales of books | 2193.70        | Postage                        | 1651.10        |
| Bank interest  | 517.38         | Business Affairs Registration  | 42.80          |
|                |                | Telephone and faxes            | 135.00         |
|                |                | Stationery                     | 147.39         |
|                |                | Bank and merchant account fees | 191.62         |
|                |                | Customs                        | 642.95         |
| <b>TOTAL</b>   | <b>2711.08</b> | <b>TOTAL</b>                   | <b>2810.86</b> |

**Balance in hand on 30 June 2011: \$9764.97**

### *AURA Newsletter*

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