



RAR DEBATE

Bednarik's 'Rock art and pareidolia': role of psychological biases

By DEREK HODGSON

Bednarik's (2016) analysis of the pitfalls of pareidolia in assessing what constitutes rock art is revealing and cogent. I would like to add one or two observations that reinforce and extend Bednarik's conclusions. The insistence in believing that petroglyphs exist, despite robust evidence to the contrary, can be further explained by certain psychological states. One of these relates to cognitive dissonance (Festinger 1957) where individuals holding a particular viewpoint take inordinate steps to validate their existing viewpoint despite obvious evidence to the contrary, as holding incompatible views leads to cognitive conflict and, thus, anxiety that needs to be assuaged. In such cases, information is sought that reinforces the prevailing view leading to what is termed 'confirmation bias' (Hart et al. 2009); exemplified in pareidolia where parts of the actual visual stimulus not resembling the projected image are ignored and attention is focussed only on those features that exaggerate the imagined item. The elation of potentially discovering rock art in this way leads to emotional arousal that serves to accentuate the saliency of mental imagery. Thus, a self-reinforcing cycle is set in motion where rock art motifs begin to be seen on other surfaces.

A second psychological phenomenon may also be at work here, namely, status or prestige bias, where an acknowledged 'expert' making a pronouncement on a phenomenon tends to influence subordinates to fall in line (Henrich and Gil-White 2001). As more subordinates come to accept the 'expert's' view, social conformity ensues where individuals tend to accept group norms and therefore will support a decision even though this goes against their own judgement (see for example Sherif 1935; Asch 1951, 1956). These observations on social influence vis-à-vis pareidolia further underline the importance of the scientific method for assessing what should be accepted as genuine rock art.

Derek Hodgson
University of York
King's Manor
York YO1 7EP

United Kingdom
derekhodgson@hotmail.com

REFERENCES

- ASCH, S. E. 1951. Effects of group pressure on the modification and distortion of judgments. In H. Guetzkow (ed.), *Groups, leadership and men*, pp. 177–190. Carnegie Press, Pittsburgh. [DH]
- ASCH, S. E. 1956. Studies of independence and conformity. A minority of one against a unanimous majority. *Psychological Monographs* 70(9): 1–70. [DH]
- BEDNARIK, R. G. 2016. Rock art and pareidolia. *Rock Art Research* 33(2): 167–181. [DH]
- FESTINGER, L. 1957. *A theory of cognitive dissonance*. Stanford University Press, Stanford. [DH]
- HART, W., D. ALBARRACÍN, A. H. EAGLY, I. BRECHAN, M. J. LINDBERG and L. MERRILL 2009. Feeling validated versus being correct: a meta-analysis of selective exposure to information. *Psychological Bulletin* 135(4): 555–588; doi:10.1037/a0015701. [DH]
- HENRICH, J. and F. J. GIL-WHITE 2001. The evolution of prestige: freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behaviour* 22: 165–725. [DH]
- SHERIF, M. 1935. A study of some social factors in perception. *Archives of Psychology* 27(187): 17–22. [DH]

RAR 34-1236

Belated cognitive dissonance

By ROBERT G. BEDNARIK

I thank Hodgson for his valuable comments on my pareidolia paper. Certainly biases such as confirmation bias and status bias can be safely assumed to have been involved in the Xiaojinggou study case. However, the perhaps most fascinating aspect of it concerns the observation that two individuals seemed to experience the same vision, deciphering the same non-existent pattern, working from two ends of a single imagined design in recording it. All of this took place without verbal communication; the two were only able to see the pattern emerging opposite. The subjects clearly shared the same expectations, otherwise the lines would not have connected and the graphic elements would not have matched.

It is this aspect that intrigues me most: the transfer-

ence, without detectable communication, of a pareidolic vision between two subjects well attuned to detecting similar patterns. This one facet of the experiment seems to be able to shed light on features of our psyche that still remain to be explained. I have already regretted that we did not conduct further experiments, due to time constraints. For instance I would have been interested in prompting re-recordings of previously recorded patterns, to determine degrees of similarities or dissimilarities. In fact there would have been a range of potential experiments to explore the fascinating phenomenon in depth. Unfortunately we missed that opportunity.

A footnote to the affair is that the president of the university college who was at the centre of the issue has, in response to my analysis of it, cancelled a contract to publish my *Rock art science* book in Chinese. The first irony of this action is that familiarity with this particular book would have prevented the occurrence of the affair altogether; the second is that the institute has already paid for the translation costs, and now the Chinese edition will be published at another university instead.

But the importance of scientifically understanding what happened at Xiaojingou, the rational explanation of what is a significant and valuable phenomenon in the service of elucidating the operation of pareidolia, has not been understood by the protagonists, which is unfortunate. The purpose of the academy, after all, is the furthering of human knowledge. One of the most important frontiers of science concerns the understanding of us. I can see no evidence that cognitive dissonance was experienced by the subjects at the time; they were in no doubt about the existence of a vast corpus of complex petroglyphs. Perhaps now they are experiencing the mental stress caused by the exposure to two contradictory views.

Robert G. Bednarik
International Federation of Rock Art Organisations
P.O. Box 216
Caulfield South, VIC 3162
Australia
auraweb@hotmail.com
RAR 34-1237

AURANET

AURANET, the Web presence of IFRAO and AURA, is the largest rock art resource on the Internet. It is being upgraded and expanded progressively and includes now downloadable rock art books. Please visit the pages and bookmark some.

**AURANET - <http://www.ifrao.com/>
(includes AURANET Library)**

Rock Art Research (journal) - <http://www.ifrao.com/rock-art-research-journal/>

IFRAO - <http://www.ifrao.com/ifrao/>

Rock art dating - <http://www.ifrao.com/rock-art-dating/>

Palaeoart epistemology - <http://www.ifrao.com/palaeoart-epistemology/>

Cognitive archaeology - <http://www.ifrao.com/cognitive-archaeology/>

Cave Art Research Association - <http://www.ifrao.com/cave-art-research-association-cara/>

Interpretation of rock art - <http://www.ifrao.com/interpretation-of-rock-art/>

Conservation of rock art - <http://www.ifrao.com/rock-art-conservation/>

Rock Art Glossary - <http://www.ifrao.com/rock-art-glossary/>

Save Dampier rock art - <http://www.ifrao.com/save-dampier-rock-art/>

Portable palaeoart of the Pleistocene - <http://www.ifrao.com/portable-palaeoart-of-the-pleistocene/>

The First Mariners Project - <http://www.ifrao.com/the-first-mariners-project/>



BRIEF REPORTS

Rock art in Poland: contribution to discussion

By MACIEJ GRZELCZYK,
KRZYSZTOF RAK and MICHAŁ JAKUBCZAK

Introduction

Poland (along with the Netherlands) is thought to be a country with very few rock art sites, or even no rock art at all (Bahn 2010: 24). Although it is true that so far no significant rock art complex dating to pre-Historic times has been found in Poland, certain findings indicate that this may change in the future. The images which are assumed to come from truly pre-Historic times are actually very rare in Poland. There are, however, several sites with petroglyphs which belong to recent History. Although neither pre-Historic nor Historic examples of rock art are numerous in Poland, a short comment on the real state of knowledge about them is valuable as it may contribute to a change in the way rock art in Poland is thought of, and may also serve as a stimulus for further research. Below we present, in chronological order, short descriptions of places where pictograms or petroglyphs were discovered (Fig. 1).

Pictograms in flint mines at Krzemionki

Pictograms in the banded flint mines in Krzemionki in south-eastern Poland may be considered as the oldest. The mines were discovered in 1922 by Jan Samsonowicz. Archaeologists established that the flint mines in Krzemionki were explored by peoples associated with Neolithic cultures of the Funnelbeaker (3700–1900 BCE), Globular Amphora (3100–2600 BCE) and Mierzanowice (2300–1600 BCE) periods. There are forty pictograms and most of them depict irregular black signs — it is possible these are traces of torches which were rubbed against the wall after having burnt out. But it is worth noting that a few pictograms are not just random marks (Fig. 2a). One of the earliest researchers investigating Krzemionki mines was Stefan Krukowski. It is through his efforts that we have information about pictograms discovered in two large chambers located in the inner part of the mining field: a depiction of a ‘dagger’ and footprints. Unfortunately, these chambers did not survive to the present day because of illegal exploitation of limestone by local people. According to the diary of Krukowski, the chambers were probably 8–9 m below the ground surface. These chambers were between 150 and 200 cm high, with a diameter of several metres. It is worth noting that the chambers were not filled with limestone rubble, which precludes their usage for mining and utilitarian purposes (Krukowski 1939: 65–66). During the investigation of the underground complex many stone, flint and antler mining tools were found, of which a substantial part was undamaged and still in a usable condition (Bąbel 2015: 92).

The best-known pictogram from Krzemionki is an anthropomorph (Fig. 2b). For a long time it functioned as the symbol of the mine and in 2012 it was also chosen as the official logo of the Archaeological Museum in Krzemionki. It should be noted that some researchers are of the opinion that this pictogram is a forgery — that it was made by a student during internships in the 1960s; others, however, point out that it was discovered several years before these internships took place and therefore its authenticity should not be questioned (Bąbel 2015: 123). The image itself is not clear. Some archaeologists hypothesised that it is a depiction of a woman

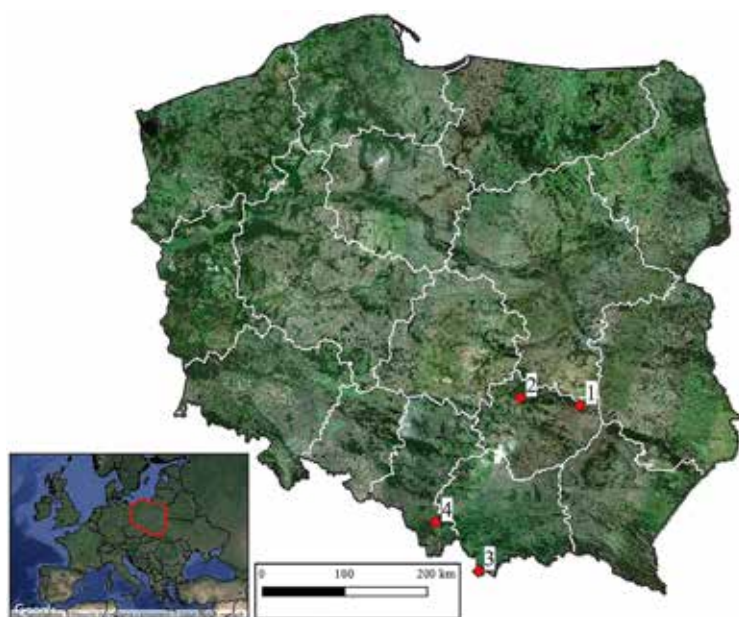


Figure 1. The location of rock art sites in Poland: 1. Krzemionki; 2. Kontrewers; 3. Tatra Mountains; 4. The Witches' Rock.

Figure 2. Pictograms of Krzemionki flint mines: a) random marks; b) anthropomorph.



Figure 4. Examples of petroglyphs from the Tatra Mountains (after Stecki 1923).

in childbirth, hence possibly a representation of the hypothetical Great Mother (Bąbel 2015: 121–123). We are of the opinion that this hypothesis goes too far and cannot be accepted if based on the analysis of a single enigmatic depiction.

The boulder from Kontrewers

Kontrewers is a hamlet in south-eastern Poland. The boulder became famous via a series of articles published in a local newspaper in the 1980s. However, since this time the interest in the monument has faded and the stone had been completely forgotten until 2005 when it was rediscovered by Gierliński and Kowalski (Gierliński and Kowalski 2006: 217–219).

Depictions of two humans and geometric patterns can be found on the boulder (Fig. 3). The larger of the two figures is 27 cm high, the smaller 20 cm. Gierliński claims that one of the figures is a woman, as under the figure's feet there is a motif which he interprets as a crescent. The second figure he interprets as a flute-player. This led him to a surprising hypothesis, namely that the humans on the Kontrewers boulder are similar to the Native American Kokopelli (Gierliński and Kowalski 2006: 219). He even went a step further by claiming that the idea of making such depictions originated in Eurasia and subsequently crossed over to America. He believes that the figures carry backpacks with seeds (Gierliński 2005: 9). In our opinion, the 'backpacks' are simply arms bent in a characteristic

manner and the analogy to Kokopelli goes far beyond the boundaries of scientific interpretation.

In 2006 the stone was excavated and moved to the Mniów village where a special glass dome for it was constructed in front of the Communal Office. During the archaeological works it was observed that the stone with petroglyphs had been placed on several sandstone slabs. The petroglyphs are currently painted white with washable paint in order to improve their visibility.

Historical engravings in the Tatra Mountains

The Tatra Mountains are the highest mountain range in the Carpathians. Approximately one-fifth of their area lies within the territory of Poland. So far, fifty-two sites with petroglyphs have been identified in the Polish part of the Tatra Mountains. These are Historical motifs; the oldest engraved date is 1531. They are generally thought to be marks left by shepherds, miners or so-called treasure hunters who lived there between the 16th and 18th centuries (Stecki 1923; Wiśniewski 1993: 166; Grabowski 2011). They depict geometric patterns (e.g. circles, crossing lines, arrows), signatures of their creators, crosses or human figures (Fig. 4). They are concentrated in large mountain valleys serving as convenient communication routes. By far the greatest concentration of petroglyphs (forty-six sites: a few/dozen motifs at each site) has been found in the Kościeliska valley. These are both open galleries and depictions in rockshelters and caves. Isolated locations



Figure 3. The boulder from Kontrewers, in situ and presently (photographs by Zbigniew Krakowiak).

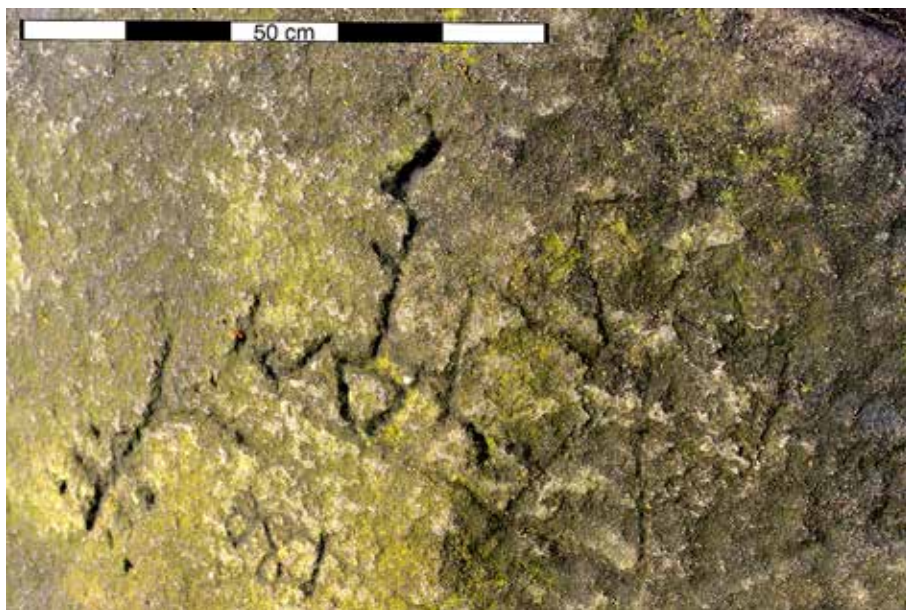


Figure 5. Petroglyphs on the Witches' Rock.

with similar petroglyphs were also discovered in the Chochołowska, Lejowa, Strążyska, Bystra, Jaworzynki and Ku Dziurze valleys (Wiśniewski 1993: 166). Although none of the currently known images found in the Tatra Mountains can be classified as pre-Historic art, one cannot dismiss the possibility that much older images still can be found there.

Skala Czarownic (in English: The Witches' Rock)

The Witches' Rock is a rock exposure located on the summit of a hill rising over the Wilkowice village in southern Poland. A pecked circle and two deeply engraved crosses as well as other geometric forms can be found there. The circle is superimposed by the lower part of a geometric sign, evidently made by metal tools (Fig. 5). When considering the origin of the petroglyphs on the Witches' Rock, the Counter-Reformation (actions of the Catholic Church in the response to the Protestants) and the related phenomenon of so-called 'forest churches' provide a valuable cultural and chronological context. In 1654, Austrian authorities seized the goods of the Protestant churches and the believers were being discriminated against. Having no official places to gather and perform services, the Evangelical (Protestant) community of Cieszyn Silesia resorted to engaging in religious practices in secret. Inaccessible forests, often high in the mountains, were chosen as meeting places. No large structures were built in these locations for fear of further persecution. Often the only traces of the fact that service was taking place there are petroglyphs of a religious nature or loose stone blocks. Such images, which reasonably can be associated with 'forest churches', have been found in Zakamień on Czantoria Mountain, where a crucifix and chalice had been engraved on the rock wall by which

people gathered to perform services (Below 2009: 98–109). In our opinion it is worth to consider the possibility that the pecked circle on the Witches' Rock was created in some pre-Historic period and recognised as a relic of pagan times by local Protestants who then engraved crucifixes.

Summary

It is true that Poland is poor in rock art sites. The sample of currently known sites which we present in this report proves that further research is recommended, not only to find new sites but also to critically evaluate current hypotheses concerning known rock art, where confirmation bias and

pareidolia are often prevalent.

Maciej Grzelczyk, Jagiellonian University in Kraków, Poland; mac.grzelczyk@gmail.com

Krzysztof Rak, Jagiellonian University in Kraków, Poland
 Michał Jakubczak, Polish Academy of Sciences in Warsaw, Poland

REFERENCES

- BĄBEL, T. J. 2015. 'Krzemionki Opatowski'. *Monument prehistorii Europy. Kopalnie krzemienia pasiastego*. Muzeum Historyczno-Archeologiczne w Ostrowcu Świętokrzyskim, Ostrowiec Świętokrzyski.
- BAHN, P. 2010. *Prehistoric rock art: polemics and progress*. Cambridge University Press, New York.
- BELOW, J. 2009. *Leśne kościoły: miejsca tajnych nabożeństw ewangelickich w Beskidzie Śląskim*. Wydawnictwo Augustana, Bielsko-Biała.
- GIERLIŃSKI, D. G. 2005. Dinozaury spod Mniowa. *Teraz. Świętokrzyski Miesięcznik Kulturalny* 10(22): 89.
- GIERLIŃSKI, D. G. and Z. K. KOWALSKI 2006. Footprint of a large, early Jurassic Ornithischian from the ancient sacred site of Kontrewers, Poland. In D. J. Harris et al. (eds), *The Triassic-Jurassic Terrestrial Transition*, pp. 217–220. New Mexico Museum of Natural History and Science Bulletin 37, Albuquerque.
- GRABOWSKI, M. 2011. Kody i zagadki w 'spiskach' tatrzańskich. *Napis* 17: 237–246.
- KRUKOWSKI, S. 1939. *Krzemionki Opatowskie*. Muzeum Techniki i Przemysłu, Warszawa.
- STECKI, K. 1923. Skarby w Tatrach, znaki poszukiwaczy skarbów. *Wierchy* 1: 43–49.
- WIŚNIEWSKI, W. W. 1993. Znaki naskalne w Tatrach Polskich, Lokalizacja znanych stanowisk, przegląd literatury i stan poznania. *Wierchy* 57: 156–168.

Rock art watercolours: the Kimberley paintings of Hill and d'Emo

By MICHAEL P. RAINSBURY

This article discusses the watercolour paintings produced by Father Nicholas d'Emo and Gerald Hill at Drysdale River Mission in the Kimberley of Western Australia in 1909/10. Their respective collections, generally unknown and un-referred to until recently, comprise a major body of research material.

The first work to discuss is the album of watercolours by Spanish missionary-priest Father Nicholas d'Emo (1849–1915). He worked in South America and South Africa before being assigned to Beagle Bay Mission in northern Western Australia. He was a Cistercian priest, and later associated with the Benedictine and Pallottine Orders (Perez 1977: 2–3; Smith 2011). He spoke French, Latin, Spanish and Catalan, and in Broome learnt the Yawuru and Nyul-Nyul languages (Ganter n.d.). D'Emo was one of the founding fathers

of Drysdale River Mission at Pago on Napier Broome Bay in August 1908.

The first record of d'Emo's interest in rock art is in a letter (11 February 1910) to Abbot Torres about his album of drawings (Nailon 2005: 155). D'Emo wrote that as he was not participating in Mission activities, he had started an album of Aboriginal paintings found in 24 rockshelters lying to the north, north-east and south-east of the Mission. He had by then drawn 26 illustrations reproducing as closely as possible the original colours. He noted the art was found on the roofs of long, low shelters between three and five feet (1–1.5 m) high, and many were affected by fires lit in the caves, making them difficult to reproduce. He had to copy them lying on the ground, the floor smoothed by Aborigines sheltering from rain or storms.

Father d'Emo's album of rock art watercolours is held by the Western Australian Museum (E6129) with a black and white photographic copy in the New Norcia Archives. It is a large (approximately 19.7 × 31 cm) financial ledger in which individual coloured plates, painted on lined writing paper, are stuck on the right



Figure 1. Pages from d'Emo's album with (a) the album cover, (b & c) two Wandjinas, (d) examples of girri girri or kir-kiri figures (Pls 1, 5, 47, 57; images by permission of the Western Australian Museum).

hand, 'odd', pages. In a few cases individual motifs are cut out and pasted down. Each plate in turn is outlined by two or three rectangles in combinations of blue and red. There are 67 plates of rock art panels including the two title pages, the first of which comprises cut out letters and words. Originally intended for the Lord Abbot of New Norcia, it reads in Spanish (Fig. 1a): 'Album Iconimico-Etografico Aborigine de Pinturas. Ballados en los Museos Naturals (o' Cuevas de rocas, en los Bosques) de los Aborigines Salvajes del N. E. de West Australia'. This is written in English on the inside cover as 'Album. Iconimico-Etografico-Aboriginal of Paintings, founded in the natural museums or caves of rocks in the forest of the wild aborigines of the N.E. of Western Australia'.

The panels are numbered sequentially

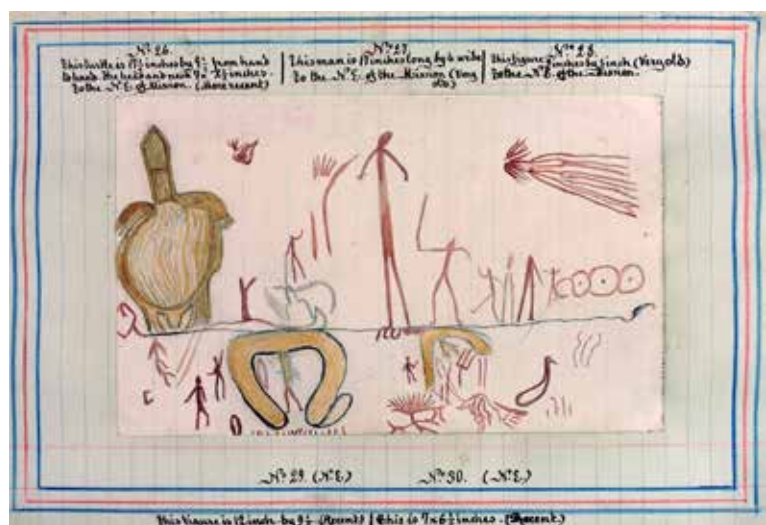


Figure 2. Plate 21, illustrating a composite scene of panels 26–30 (image by permission of the Western Australian Museum).



Figure 3. Plate 19 (panel 21) from cave R illustrating the 'murder' of the infant (image by permission of the Western Australian Museum).

and gaps in the numbering show not all the recorded art panels were stuck in the ledger. There is little indication of the number of art sites found, though Plate 65 is panel No. 90 from Cave 182. D'Emo wrote that the numbering was arbitrary and for his own private direction (Nailon 2005: 207).

D'Emo painted figures from over 91 sites and occasionally combined art from different sites or panels on the same plate (Fig. 2). Notes in copperplate handwriting give a description of each panel, its size, and direction from the Mission, along with occasional speculations on the subject matter, but no distances from the Mission or dates visited.

Sometimes d'Emo provided an opinion on age, e.g. 'more than 100 years old' (Pl. 13); or 'this figure has been painted in blood' (Pl. 11); and for two hand prints (Pl. 9) 'I think that the painter had produced this figure by painting his own hand in black, and then printing

here in the rock'. A representation of what now would be identified as a Wandjina head (Pl. 47) (Fig. 1c) is described as being a type of horseshoe with a shoe sole in the centre. Unfortunately without Aboriginal informants he did not know or understand what he was recording (Akerman 2016: 9–10). D'Emo's strangest interpretation concerns two human figures, one holding twin nested boomerangs (Plate 19) (Fig. 3). He wrote:

To the S.E. of the Mission (Cave R. bis). This group is 1 foot 10 inches by 1 foot wide. The figure on the left, is a man; that of the right, the woman that has killed her baby (still in her hands) [the nested boomerangs] with the stone tamiok. The baby is bleeding. The instrument of the crime is painted over her left arm. Close to the feet of the man, is a domestic opossum or cat smeling (sic) the blood; and bushes. The head of the woman is nearly gone. Whence come the wooden shoes that carry this man in his feet? (Very old picture) (d'Emo n.d.).

The above interpretation is most likely a product of d'Emo's imagination as in 1909/10 when recorded, personal contact with local Kwini people was limited with the monks living in fear. Living conditions at Pago were initially difficult with the monks retiring at night to the first floor of the Mission fearing attack. One memorable diary entry reads 'We are in the chapel saying our prayers, with the Rosary in one hand, and the revolver in the other' (15 March 1915 in Perez 1977: 24). Conditions were equally trying for d'Emo's rock art recording. In a letter to C. F. Gale, Chief Protector of Aborigines, he wrote 'I told you in my interview I was disappointed in leaving some interesting pictures ... in the caves of one place about 15 miles from the Mission ... I wanted three men with me (with guns) to allow me to remain two or three days in the place, and I could not obtain' (15 August 1913 in Nailon 2005: 207).

The second art collection is that by Gerald F. Hill (1880–1954) who produced a set of watercolour paintings of individual rock art figures. Hill was part of the Dept. of Economic Entomology in Canberra and visited the Mission from August 1909 to mid-1910 for scientific work. He later joined the Northern Territory Survey and Exploration Party of 1911–1912. At the Mission he was involved with biological collecting and is recorded as having shipped two boxes of birds to Sydney in February 1910. He was a photographer and sent films to Melbourne to be developed by an expert.

Gerald Hill's watercolours are held in the South Australian Museum (AA134/1/1–43). There are 43 plates in total, comprising 30 actual paintings and 13 slides of paintings with no corresponding paper in the archive. Of the 43 plates, four are of petroglyphs from Parry Harbour. The paintings are from a radius of 8 km from the Mission in the general Napier Broome Bay area.

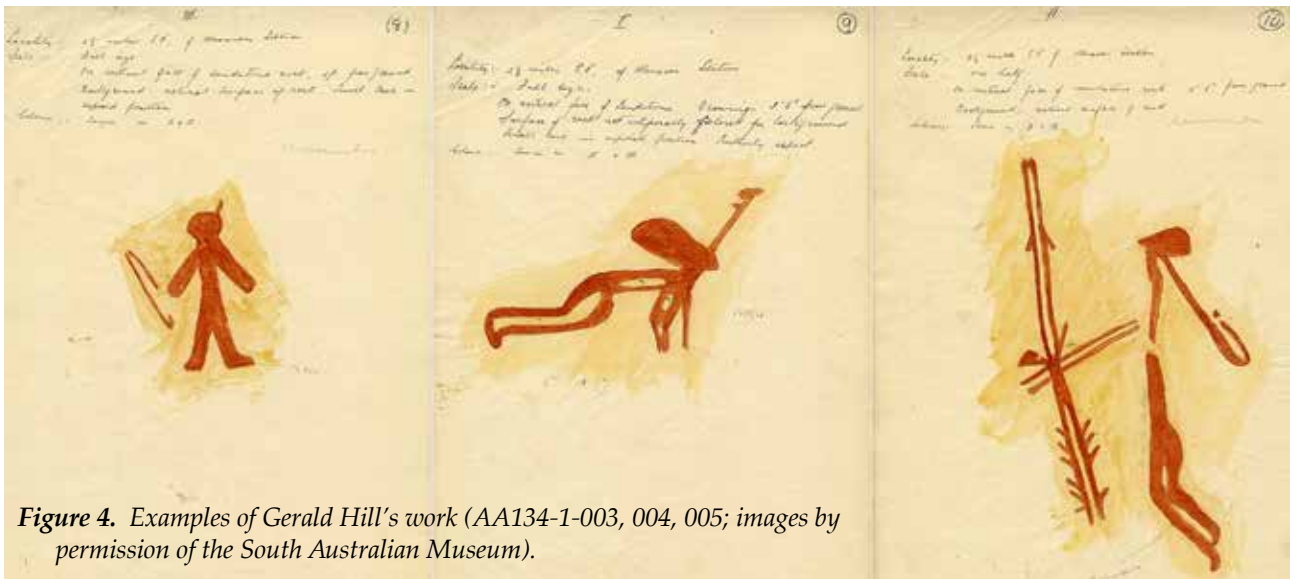


Figure 4. Examples of Gerald Hill's work (AA134-1-003, 004, 005; images by permission of the South Australian Museum).

The watercolours are of individual figures, one to the page (a little larger in size than modern A4), painted to represent the ochre of the original (Fig. 4). All the sketches are annotated in pencil with locality, distance and direction from the Mission, their scale whether full or half size, the location of the rockshelter and panel, and finally the colour rendering. Dates of visiting are provided for only seven plates: 10 February (Pl. 20), 15 April (Pls 27, 28, 35, 43) and 1, 26 May 1910 (Pls 35 and 7 respectively).

Hill painted recognisable anthropomorphs holding hooked stick spear throwers and in one case multi-barbed spears (Fig. 4), and a kangaroo hunt. Both men depicted macropod tracks, hand and foot prints, lizards, circular 'sun' signs and turtles, e.g. Figure 2. D'Emo though included geometric figures, canoes (see Ross and Travers 2013) and plants, e.g. two examples of strings of yams, ovals with tendrils thought to be long yams, and sets of undulating parallel lines he called grasses (see Veth et al. 2017 and Welch 2003).

It is difficult to determine whether they explored and painted together. The overlap of only seven panels in common suggests not. Their different ways of depicting the same figure is illustrated by comparing Figure 5a with the same motif in Figure 2. D'Emo included the associated *giri-giri* figures, Hill omitted them.

The uncertainty over their collaboration extends to their personal relations. D'Emo was disturbed by Hill's arrival leading him to complain the Benedictines were not observing monastic silence, on account of Hill talking until late with Father Planas in an adjacent room (Nailon 2005: 168). In such an environment the two men would be aware of the other's doings (the other monks knew of d'Emo's drawings but not his album). The two men did work together on other occasions such as Hill going with d'Emo to meet the steamer bringing supplies, and d'Emo helping Hill with his biological collecting.

D'Emo continued painting until 1913 when the 'Aboriginal album', as he called it, was presented to C. F. Gale, the Chief Protector of Aborigines. Writing

from Lombadina (15 August 1913), d'Emo sent four parcels to Gale, the entirety of his collection accrued from visiting over 200 Aboriginal camps. The collection included two small canoes, spears, iron and stone tomahawks, amongst other articles (Nailon 2005: 207; Smith 2011). The collection of 433 artefacts was passed on to the Western Australian Museum, some artefacts being still in their original packing (an *irgil* boomerang in newspaper wrapping dated 23 March 1912). The collection is of interest for the inclusion of women's objects, something unusual for collectors of the time (Smith 2011).

The album was sent to Gale as he had expressed an interest in it. In a rather poignant paragraph d'Emo wrote: 'I make a true sacrifice in depriving myself of its possession and sending it to you at your request; but trust that it will be a benefit to yourself and the State if you have it in the museum, as you intended' (15 August 1913 in Nailon 2005: 207). In a presumably earlier, though undated letter, d'Emo gave permission to an unnamed priest to advertise the album to the public and government, his name (d'Emo's) not to be used as he wanted the Benedictine fathers and Catholic religion to get the honour and credit for it. He thought the album might be published in the *Western Mail*, a newspaper specialising in publishing photographs (Nailon 2005: 158). If d'Emo's original intention to publish had occurred then it would have been the first ever guide to Kimberley rock art and possibly the first such guide in Australia.

Although donated as a personal sacrifice for the good of the (Western Australian) State, the album was consigned to an archive where it languished for the past century, being unknown and un-referred to until recently (Akerman 2016; Nailon 2005; Rainsbury 2016; Ross and Travers 2013; Smith 2011). The only other reference to it is from Perez's history of Kalumburu (1977: 165–171). Perez published images from the album of *giri giri* or *kir-kir* figures (so-called Bradshaw figures) (Fig. 1d) and said the album was used as a guide by Douglas Fox on the Frobenius expedition to the

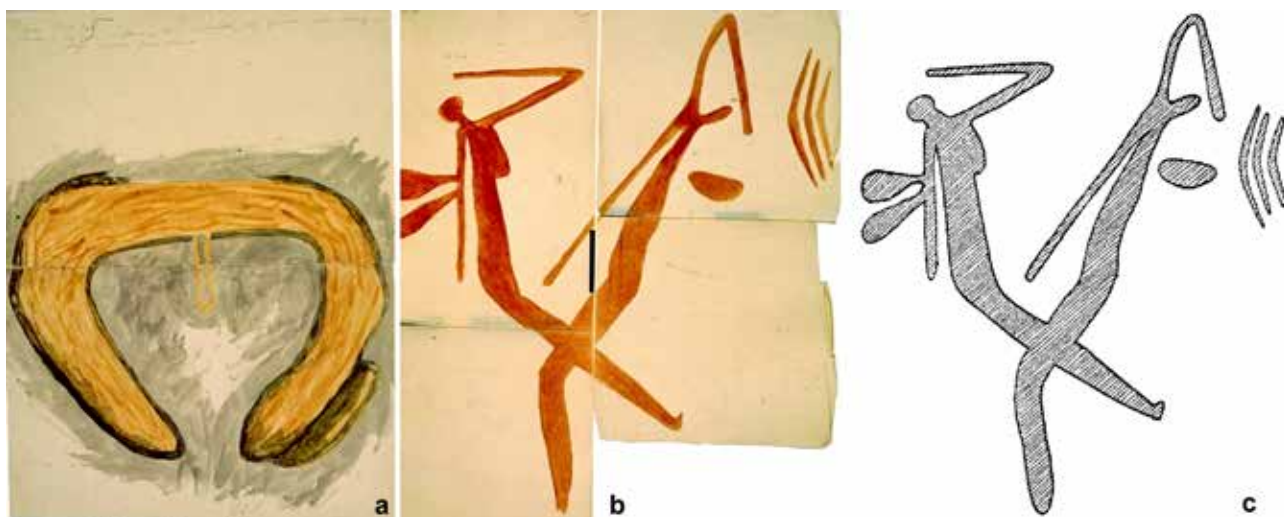


Figure 5. Hill's watercolours: (a) painting of a Wandjina head (AA134-1-037), (b) elegant action figures (AA134-1-041), and (c) Mountford's rendition of the same (1937: Fig 36). (Images by permission of the South Australian Museum.)

Kimberly in 1938/39 (Perez 1977: 166). The expedition photographed the site painted by d'Emo in Figure 2 naming it Kalu.

Gerald Hill's watercolours have languished in obscurity too for the last eighty years. Charles Mountford discovered them and published an account in the mid-1930s (Mountford 1937). In the intervening years they have not been referred to, one reason perhaps being Mountford's article. He redrew and colour coded them for publication, and in so doing changed the paintings from lively images (Fig. 5b) into rather soulless figures (Fig. 5c). The watercolours themselves show pencilled comments and notation in a different hand to Hill's, presumably Mountford's.

In conclusion Father Nicholas d'Emo and Gerald Hill produced 108 watercolour plates of rock art from their time at Drysdale River Mission, their two collections having lain in obscurity for almost a century. Only now is their value towards understanding the early days of settlement and the interests and pursuits of the monks and their visitors being appreciated.

Acknowledgments

Thank you to Esther Waina and Kevin Waina for research approval and permission to publish images; the Traditional Owners and people of Kalumburu; Dr Moya Smith and the Western Australian Museum; the Abbot of New Norcia, Fr. John Herbert, and Peter Hocking of New Norcia Archives; Lea Garam and Helen Hopper of the South Australian Museum; Joc Schmiechen for liaising with the South Australian Museum; Father Anscar McPhee, Dr David Welch, Prof. Margarita Diaz-Andreu. Images published by kind permission of the Western Australian and South Australian Museum.

Dr Michael P. Rainsbury
SCR, Ustinov College
Howlands Farm, South Road
Durham DH1 3DE
United Kingdom
m.p.rainsbury@dunelm.org.uk

REFERENCES

- AKERMAN, K. 2016. *Wanjina. Notes on some iconic Ancestral Beings of the northern Kimberley*. Hesperian Press, Carlisle, Western Australia.
- d'EMO, N. n.d. *Iconimico etografico Aboriginal. Album of paintings found in the natural museums or caves of rocks in the forest of the wild Aborigines of the N.E. of Western Australia*. Unpubl. report, Western Australian Museum and New Norcia Archives.
- GANTER, R. n.d. *German missionaries in Australia. Emo, Nicholas Maria Fr. (1849–1915)*. http://missionaries.griffith.edu.au/biography/emo-nicholas-maria-fr-1849-1915#Emo_in_Broome. Accessed 14 December 2016.
- MOUNTFORD, C. P. 1937. Examples of Aboriginal art from Napier Broome Bay and Parry Harbour, north-western Australia. *Royal Society of South Australia, Transactions* 61: 30–40.
- NAILON, B. 2005. *Emo and San Salvador*. 2 Vols. Brigidine Sisters, Echuca, Victoria.
- PEREZ, E. 1977. *Kalumburu: the Benedictine Mission and the Aborigines, 1908–1975*. Kalumburu Benedictine Mission, Wyndham, Western Australia.
- RAINSBURY, M. P. 2016. Forgotten images: Charles Price Conigrave and the Kimberley Exploring Expedition of 1911. *Rock Art Research* 33(1): 99–102.
- ROSS, J. and M. TRAVERS 2013. 'Ancient mariners' in north west Kimberley rock art: an analysis of watercraft and crew depictions. *The Great Circle* 34(2): 55–82.
- SMITH, M. 2011. In the Wild West. Kimberley collector — Father Nicholas Emo. The Harry Butler Lecture Series, Western Australian Museum, public presentation, 15 & 16 September, 4 November 2011.
- VETH, P., C. MYERS, P. HEANEY and S. OUZMAN 2016. Plants before farming: the deep history of plant-use and representation in the rock art of Australia's Kimberley region. *Quaternary International*. <http://dx.doi.org/10.1016/j.quint.2016.08.036>
- WELCH, D. 2003. Plant motifs in Kimberley rock art, Australia. *Before Farming* (4): 1–13.

Creating a digital rubbing from a 3D model of petroglyphs

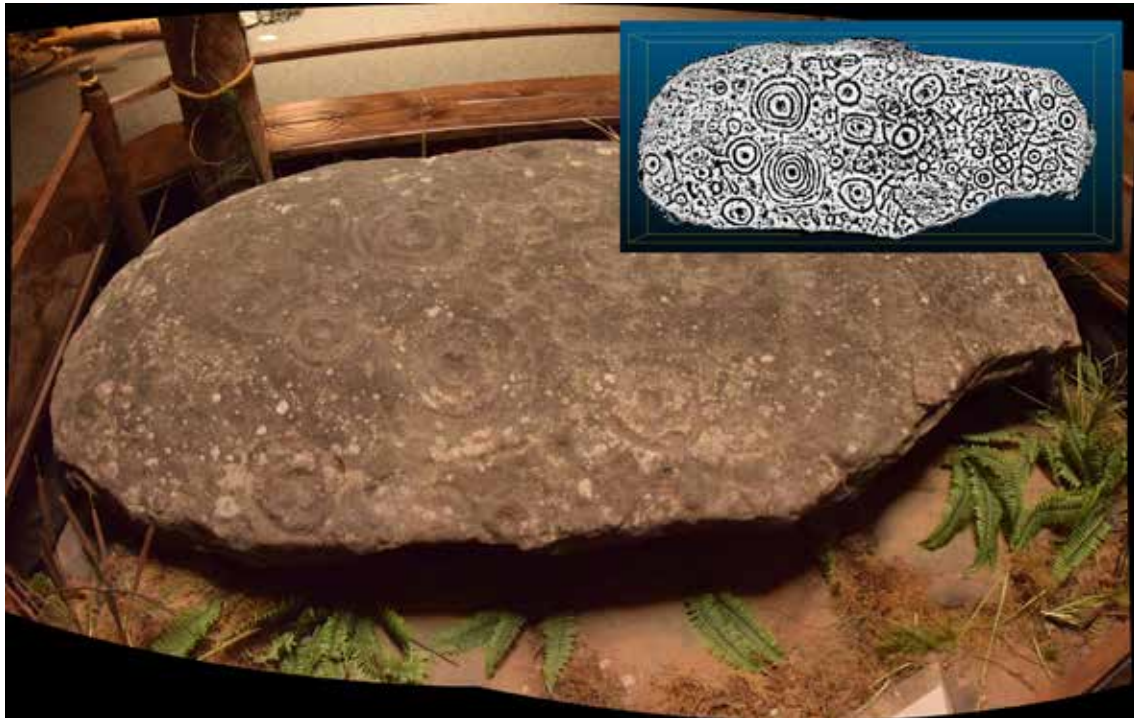
By ROBERT MARK

This technique is based upon the use of a dense point cloud from a Structure from Motion (SfM) program such as PhotoScan. The model must be of high-resolution, so as to capture the petroglyph surface texture. The point cloud is opened in CloudCompare (free software) and

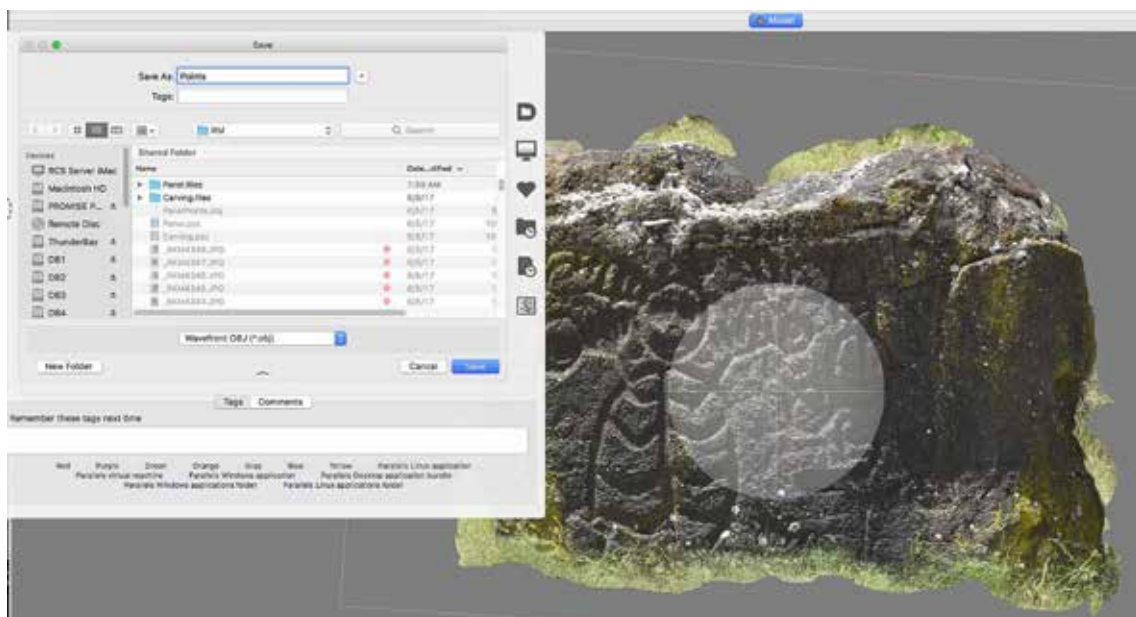
a generalised surface is fitted to the points. A display of the points below the surface has the appearance of an inverted rubbing.

Dr Robert Mark
 Rupestrian CyberServices
 3644 N. Stone Crest Street
 Flagstaff, AZ 86004-6811
 U.S.A.

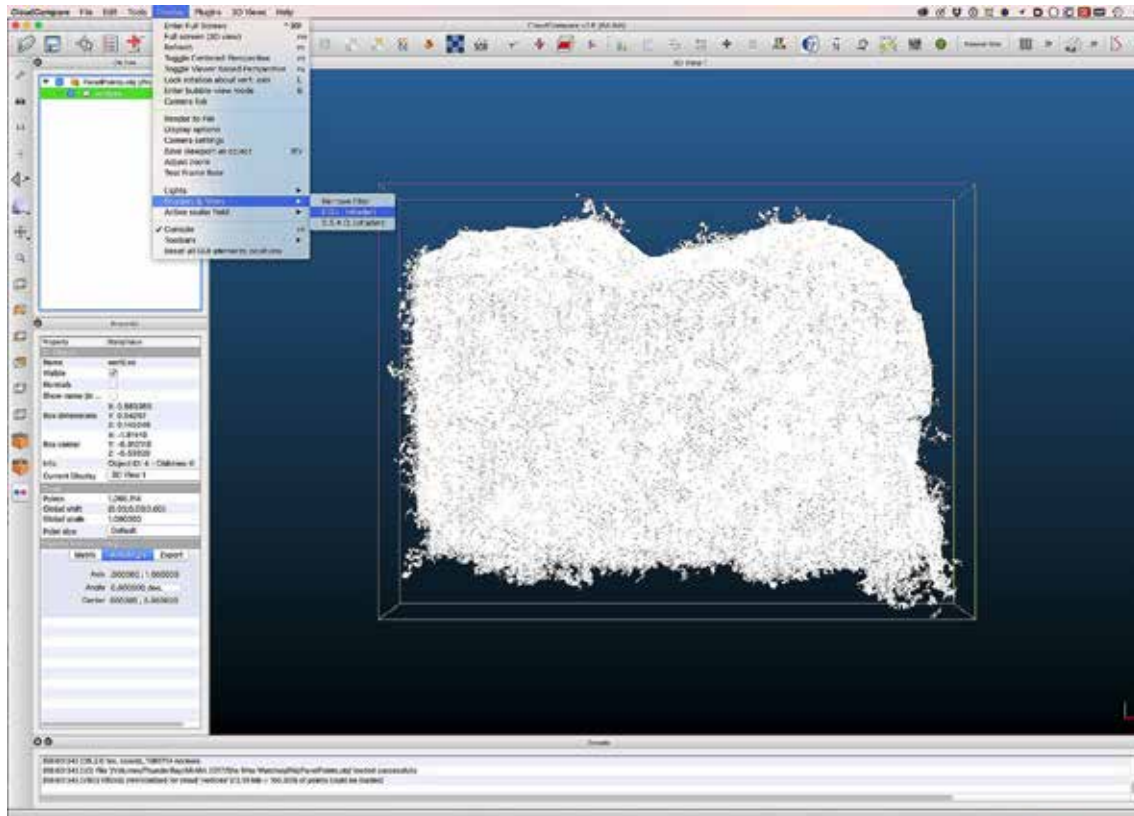
rmark@infomagic.net
 RAR 34-1240



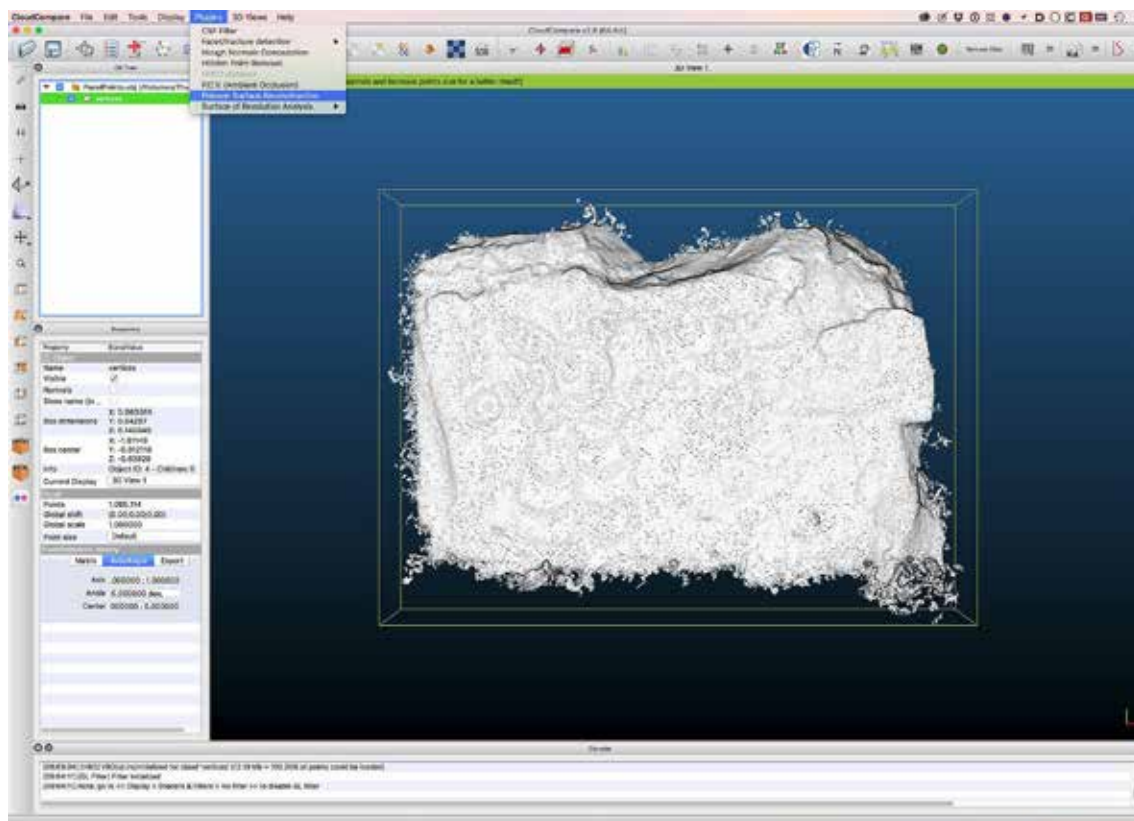
Example of a 'digital rubbing' of boulder at Reinhardt University, Georgia, U.S.A.



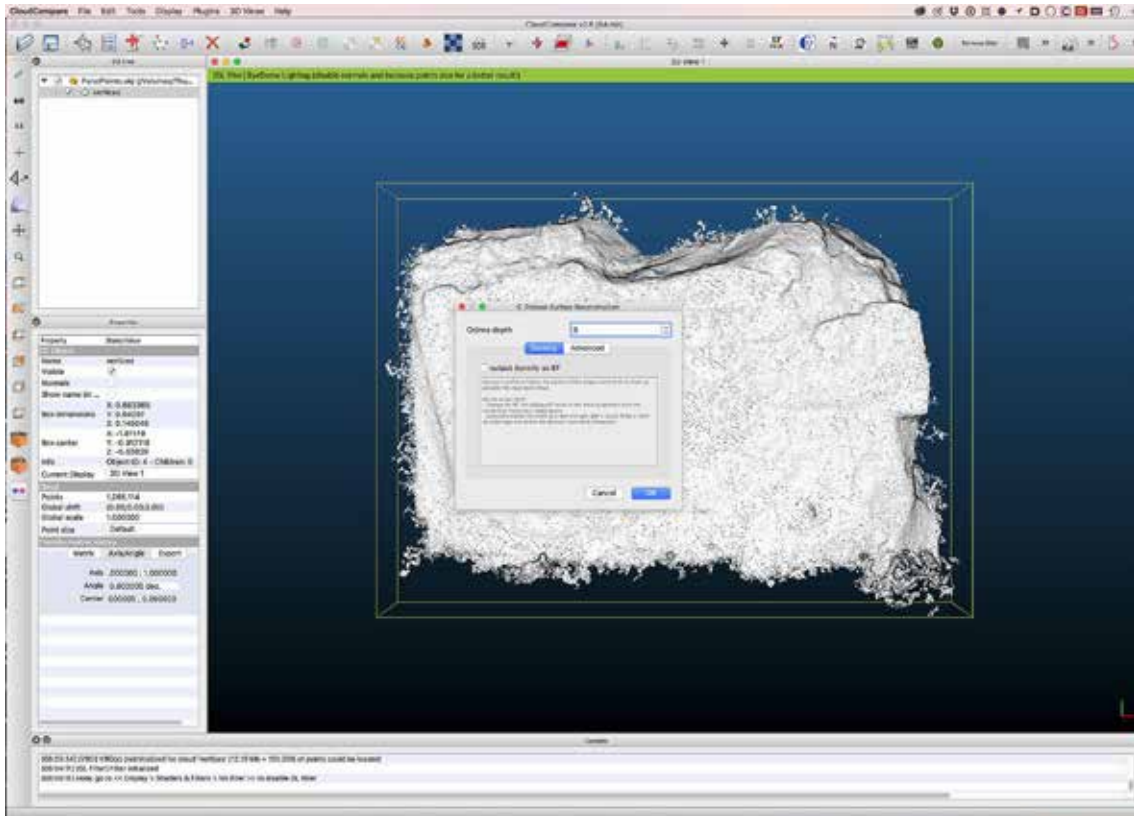
Step 1. Export a dense point cloud from the model (Columbia Hills State Park, Washington).



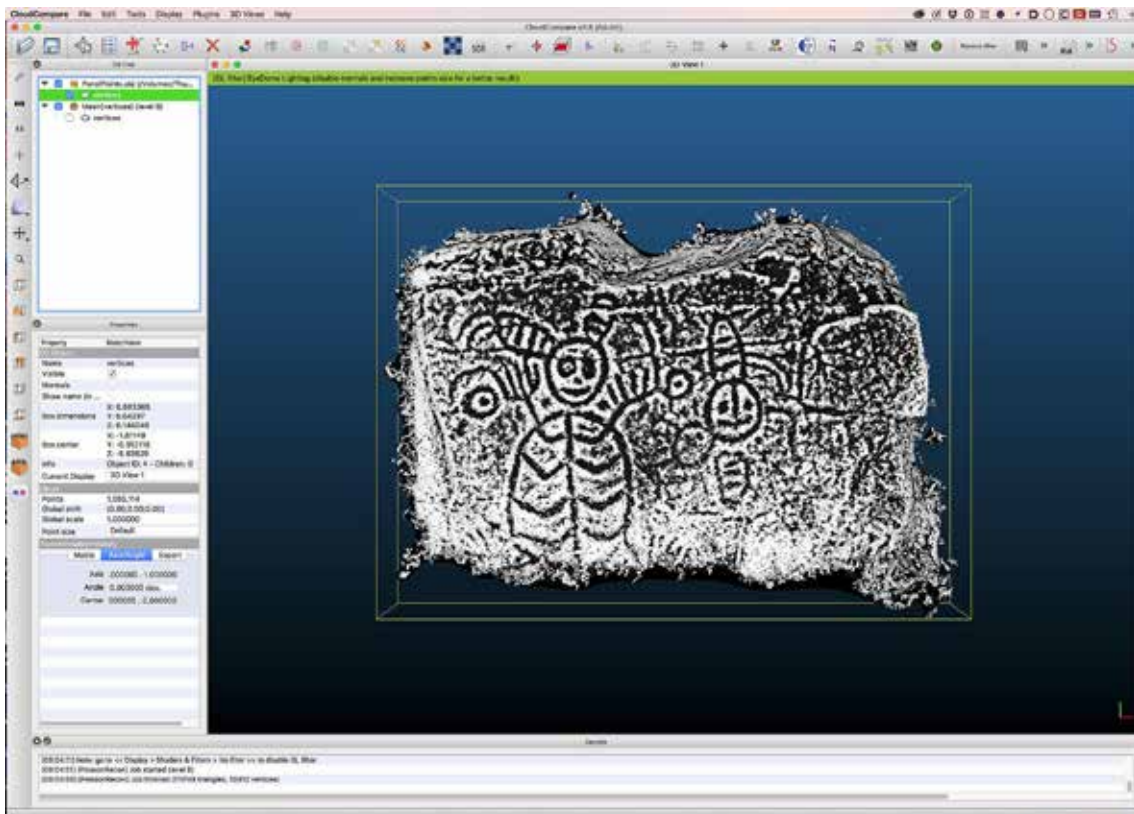
Step 2. Open the point cloud in CloudCompare, and turn on shading.



Step 3. Select the vertices. Then select Plugin: Poisson Surface Reconstruction
[http://www.cloudcompare.org/doc/wiki/index.php?title=Poisson_Surface_Reconstruction_\(plugin\)](http://www.cloudcompare.org/doc/wiki/index.php?title=Poisson_Surface_Reconstruction_(plugin)).



Step 4. Experiment with Octree Depth (usually 8).



Step 5. Save (Display: Render to File) or capture the image, the 'digital rubbing'.



RAR REVIEW

Darwin's bridge: uniting the humanities and sciences, edited by JOSEPH CARROLL, DAN P. ADAMS and EDWARD O. WILSON. 2016. Oxford University Press, New York, 335 pages, monochrome illustrations, bibliographies, index, hardcover, ISBN 978-0-19-023121-7.

This volume is of interest to rock art researchers primarily for two reasons: it endeavours to address the tensions between the humanities and the sciences, which are so very much evident in our field; and it features two chapters specifically dedicated to some of the earliest palaeoart. Nevertheless, it is clear that several other chapters are also of considerable relevance to our discipline and they deserve to be considered here as well.

This very aptly named book is a collection mostly of presentations given at a conference held at the University of Missouri in early 2012, entitled 'Consilience: evolution in biology, the human sciences, and the humanities'. However, as a review of the fourteen chapters organised into six parts soon reveals, consilience is not attained in this volume; in fact there is not even consilience about the meaning of that word. While it is recognised that the hard sciences have attained good levels of consistency among their different disciplines, commentators in this volume do accept that 'consilient work in the humanities is still in its infancy' (e.g. p. 271). Jonathan Gottschall, in an afterword, reminds us, that humanities scholars lack the tools to 'winnow patiently the field of competing ideas. That's what the scientific method is for.' The volume was essentially prompted by the work of Edward O. Wilson, 'considered one of the world's foremost biologists and naturalists', who also provided its opening chapter. He begins it with the statement: 'The meaning of humanity is too important a subject to leave to the humanities' (p. 3), prompting David Sloan Wilson to ask why humanists should not be 'discomfited' (265). But the battle between the two camps has a long history, beginning in the late 19th century with the tensions between the natural sciences and the *Geisteswissenschaften* (consider Wilhelm Dilthey); this volume does little to help resolving it.

One reason for this is illustrated by comparing the two palaeoart contributions mentioned. One is written by a self-confessed (90) scientist, John Hawks, the other by humanist Ellen Dissanayake. Hawks, an

anthropologist specialising in the Neanderthals, writes about the markings they produced and provides several incisive and well-argued points. For instance he discusses the 'consilience' of red ochre and shells, rightly demanding that the direction and strength of causal relations among observations be established (95) before anthropology could consider applying interpretation. He correctly invokes a taphonomic argument concerning red pigment but then spoils it by claiming red to be the second-most common pigment in archaeological contexts, after black (94). More disconcerting is his cavalier approach to published data, notably the available instances of palaeoart that can reasonably be attributed to what anthropologists tend to call Neanderthals. Hawks mentions a few instances, implying that these are the only ones he is aware of, or that they are the only ones he is willing to accept. When we consider the great lengths Peyroni went to in ensuring that his observations could not be questioned it needs to be asked why Hawks excludes the La Ferrassie 'Neanderthal' cupules (Peyrony 1934). Not only ignores Hawks most of the many relevant instances we have of 'Neanderthal' markings, he even states that these humans 'never, to our knowledge, painted figures or other representations on the walls of caves'. Such categorical statements need to be better qualified. Bearing in mind that 'Moderns' derive from 'Neanderthals', where does one group end and the other begin? Does he have evidence that the early phase of cave art in Chauvet (or Baume Latrone, or certain other sites) was made by fully 'anatomically modern humans'? If not, would it not be more appropriate to begin with a testable null hypothesis? What precisely does he mean with 'figures' and 'representations'? Is he implying that he knows the meanings of human marks on cave walls?

The neglect of available data by 'scientist' Hawks is contrasted with the data presentation of very early palaeoart by Dissanayake, who includes a good number of specimens that are even earlier than the putative Neanderthals. That factor alone renders Hawks' interpretation of the record available to him superseded. The same applies to other 'scientific' contributions to this volume. For instance there is a great paper by Michael R. Rose who examines the concept of free will in a Darwinian perspective. It contains several gems, including the description of popular science writing as 'intellectual lumpenproletariat'

and the notion that humans have somehow escaped biological evolution. Oh yes, he is on the right track here — what a pity he is also unfamiliar with the relevant literature. After rightly discussing the enormous biological cost of the expanding brain, Rose even arrives at the conclusion that if ‘our large brains are no longer relevant to fitness ... they should evolve rapidly toward much smaller sizes’. It seems a brilliant thought, but it is neither original nor does Rose know that the human brain has, since Hawks’ Neanderthals faded out, been reducing in size at a rate 37 times the previous long-term encephalisation (Bednarik 2011) — the latter a development Wilson rightly describes as ‘one of the most rapid episodes of evolution of complex organisms in the history of life’ (5). Indeed, Rose is unaware that *all* major paradoxes surrounding human evolution have already been resolved years before he came close to reinventing the wheel (Bednarik 2008, 2011). Not only is the ongoing atrophy of the human brain well known to informed researchers (Henneberg 1986, 1988; Bednarik 2014), the ‘first paradox’ he proposes ‘to solve’ (71) has already been explained satisfactorily. So have numerous others, all in a single powerful hypothesis, including more important ones Rose is not aware of, such as the famous Keller and Miller paradox: why has natural selection not selected against the numerous (in the order of 8000) disadvantageous alleles from the human genome (Keller and Miller 2006)? How did exclusive homosexuality or loss of oestrus creep into the human lineage? But more importantly, how can we possibly account for the ‘catastrophic’ and ongoing neotenisation event in recent human ‘evolution’, or for the rise of neuropathologies and neurodegenerative conditions, or the unstoppable rise of the exograms? All these issues have been resolved with one single, elegant explanation, and anyone wishing to explore the recent neurological development of humans needs to take the auto-domestication hypothesis into account. Just fifteen years ago Rose’s paper would have been brilliant; today it is superseded.

Ellen Dissanayake’s contribution, by contrast, is up to date in data presentation, properly the basis of all hypothesising. Moreover, her ‘artification’ concept is a robust, commonsense proposal. After all, art is inseparable from its interpretation (Danto 1986) and always derives from an ethnocentric concept: ‘the status of an artifact as a work of art results from the ideas a culture applies to it, rather than its inherent physical or perceptible qualities. Cultural interpretation (an art theory of some kind) is therefore constitutive of an object’s arthood’ (Danto 1988). Art is simply a ‘making special’ by the artist. We understand that if an artist arranges thirty ordinary bricks in a row in an art exhibition, it is ‘art’. If he slaughters a cow at the entrance of an art gallery, he creates art and the cadaver is a work of art. Nevertheless, we are not aware of any evidence tendered that any palaeoart of the Pleistocene is art in the modern Western sense of

the term.

Of interest to the palaeoart specialist might also be a chapter by Massimo Pigliucci entitled ‘The limits of consilience and the problem of scientism’. After considering the ‘two cultures and the science wars’, he elaborates on the reasons why an approach seeking ‘unity of knowledge’ along Wilson’s search for consilience is unlikely to succeed. He is probably right, though the reasons may be somewhat more complex than he envisages: our reality constructs are not reflections of some kind of objective reality, and there are good reasons for that. What this book manages to demonstrate is the wide gulf that will certainly continue to exist between the humanities and the sciences.

Robert G. Bednarik

IFRAO, Melbourne

REFERENCES

- BEDNARIK, R. G. 2008. The domestication of humans. *Anthropologie* 46: 1–17.
- BEDNARIK, R. G. 2011. *The human condition*. Springer, New York.
- BEDNARIK, R. G. 2014. Doing with less: hominin brain atrophy. *HOMO — Journal of Comparative Human Biology* 65: 433–449.
- DANTO, A. C. 1986. *The philosophical disenfranchisement of art*. Columbia University Press, New York.
- DANTO, A. C. 1988. Artifact and art. In exhibition catalogue for *ART/artifact*, edited by S. Vogel, 18–32. Center for African Art, New York.
- HENNEBERG, M. 1988. Decrease of human skull size in the Holocene. *Human Biology* 60: 395–405.
- HENNEBERG, M. 1990. Brain size/body weight variability in *Homo sapiens*: consequences for interpreting hominid evolution. *HOMO — Journal of Comparative Human Biology* 39(3–4): 121–130.
- KELLER, M. C. and G. MILLER 2006. Resolving the paradox of common, harmful, heritable mental disorders: which evolutionary genetic models work best? *Behavioral and Brain Sciences* 29: 385–452.
- PEYRONY, D. 1934. La Ferrassie. *Préhistoire* 3: 1–92.

RAR 34-1241

RECENT ROCK ART JOURNALS

International Newsletter of Rock Art. Newsletter of the Association pour Rayonnement de l’Art Pariétal Européen (ARAPE). Edited by JEAN CLOTTES. Bilingual newsletter (French and English). Recent issues include these research articles:

Number 77 (2017):

HERMANN, L.: Rock art sites in the Karakol valley (Talas Oblast), Kirgizstan.

MASSON MOUREY, J.: Discovery of an original

anthropomorphic representation in the Val de Fontanalba (Tende, Alpes-Maritimes, France).

MOHAMMADI GHASRIAN, S.: Proposal about a relative chronology of rock art in Iran.

D'HUY, J.: Was the bear venerated in the Upper Palaeolithic? A statistical contribution to a story of the past.

SIMENEL, R., M. BAILLY, G. GRAFF, A. ALAOUI and J. GAVELLE: Some reflections on long-term graphic continuity in Moroccan rock art.

DUBEY-PATHAK, M. and J. CLOTTE: Ceremonies when reaching rock art sites in Chhattisgarh (India).

Number 78 (2017):

HERMANN, L.: Rock art sites of the northern bank of Lake Issyk-Kul, in Kirghizstan.

HERMAN, L.: A rock art site in the Ur-Maral region (Talas Oblast) in Kirghizstan.

KEYSER, J. D.: The Cut Bank Creek survey: new sites in central Montana (USA).

BOYD, C. E.: The White Shaman Mural and the dawn of time.

Purakala. Journal of the Rock Art Society of India (RASI). Edited by GIRIRAJ KUMAR. The most recent issues contain these research and review papers:

Volume 26 (2016):

BEDNARIK, R. G.: Effects of recent global palaeoanthropological research on south Asian Pleistocene archaeology and rock art.

KUMAR, G., R. G. BEDNARIK, A. PRADHAN and R. KRISHNA: The stone tools from Daraki-Chattan Cave.

KUMAR, G., R. G. BEDNARIK, R. KRISHNA and P. K. BHATT: Fieldwork in advance for microerosion dating with special reference to Chambal valley in India.

KUMAR, G. and R. G. BEDNARIK: The project 'Scientific dating of the world's earliest rock art': a preliminary report of the field work 2016.

KUMAR, G. and A. PRADHAN: Rock art of Fatehpur-Sikri region.

SPALZIN, S.: A preliminary study of the petroglyphs of Upper Ladakh.

KRISHNA, R., G. KUMAR, P. K. BHATT and R. VIKRAM: Amad: a newly discovered petroglyph site on Rampura plateau in Chambal valley.

REDDY, B. M.: Discovery of the rock art sites in Andhra Pradesh and Telangana in 2015–16.

RECENT BOOKS OF INTEREST

Imagens da pré-História, by ANNE-MARIE PESSIS. 2013. Parque Nacional Serra da Capivara, FUMDHAM Ed, São Paulo, 320 pages, illustrated in colour throughout, hardcover, ISBN 987-85-89313-08-7.

Os biomas e as sociedades humanas na pré-História da região do Parque Nacional Serra da Capivara, Brasil, Volumes II-A and II-B, edited by ANNE-MARIE PESSIS, GABRIELA MARTIN and NIÈDE GUIDON. 2014. Fundação Museu de Homem Americano (FUMDHAM), São Paulo, 848 pages, with a total of 24 contributions, illustrated in colour throughout, hardcover, ISBN 987-85-89313-78-76.

Understanding human behavior: theories, patterns and developments, edited by ROBERT G. BEDNARIK. 2016. Perspectives on Cognitive Psychology, Nova Biomedical, New York, 26 authors, 281 pages, monochrome images, index, hardcover, ISBN 978-1-63485-174-9.

Paleoart and materiality: the scientific study of rock art, edited by ROBERT G. BEDNARIK, DANAE FIORE, MARA BASILE, GIRIRAJ KUMAR and TANG HUIHENG. 2016. Archaeopress Publishing Ltd, Oxford, 45 authors, 254 pages, softcover, ISBN 978-1-78491-429-5.

Neanderthals in Plato's Cave, by GEORGE F. STEINER. 2017. Nova Science Publishers, Inc., New York, 225 pages, extensive bibliography, index, hardcover, ISBN 978-1-53611-940-4.

Palaeoart of the Ice Age, by ROBERT G. BEDNARIK. 2017. Éditions universitaires européennes, Saarbrücken, 213 pages, 76 colour and monochrome illustrations, extensively referenced, softcover, ISBN 978-3-639-56008-4.

RECENT PAPERS OF INTEREST

The science of cupules, by ROBERT G. BEDNARIK. 2016. *Archaeometry*, Volume 58, Number 6, pp. 899-911; doi: 10.1111/arcm.12216.

New perspectives on the chronology and meaning of Mount Bégo rock art (Alpes-Maritimes, France), by THOMAS HUET. 2017. *Cambridge Archaeological Journal*, Volume 27, Number 2, pp. 199–221.

The concept of art as archaeologically applicable, by YLVA SJÖSTRAND. 2017. *Cambridge Archaeological Journal*, Volume 27, Number 2, pp. 371–388.

Pareidolia and rock art interpretation, by ROBERT G. BEDNARIK. 2017. *Anthropologie*, Volume 55, Numbers 1–2, pp. 101–117.

Elephants and ringing rocks in the Karoo, by NEIL RUSH. 2017. *The Digging Stick*, Volume 34, Number 1, pp. 17–18.

To be continued.



ORIENTATION

IMPART research project symposium Mitzpe Ramon, Israel, 20 December 2016

By JOSHUA SCHMIDT

In December 2016, the Integrative Multilateral Planning to Advance Rock Art Tourism (IMPART) research team held a dissemination symposium in the Negev desert town of Mitzpe Ramon, entitled 'Integrating the Public-Private Sectors for Successful Planning, Conservation and Management of Rock Art Tourism in the Negev'. Over the past two years, the bi-national IMPART study was funded by the Israeli Ministry of Science, Technology and Space and the Italian Ministry of Foreign Affairs and brought together researchers from the Dead Sea and Arava Science Center, the Israel Antiquities Authority, the Department of Hotel and Tourism Management, Ben-Gurion University and the Higher Institute on Territorial Systems for Innovation (SiTI), in Torino, Italy. The objective of the project was to assemble a combination of theoretical and field data, the results of which will formulate guidelines for a comprehensive tourism management plan for Negev rock art while also establishing a rock art database meant to ensure its continued preservation.

The symposium was open to the public and included delegates from the two Ministries, academics and international rock art experts, representatives of the public sector including local municipalities and regional councils, government tourism boards, the National Parks Authority, the Israeli Antiquities Authority, the Authority for the Development and

Settlement of the Bedouin in the Negev and private sector tourism operators, many of whom had previously participated as interviewees in the ethnographic segment of the study.

The event began with IMPART researchers leading a guided tour of Ramat Matred, a key Negev rock art site and the locus of the IMPART archaeological survey. Afterwards, delegates reconvened in Mitzpe Ramon for lunch at the Pundak Ramon Inn and two roundtable sessions. During the first, the IMPART team presented their findings rela-

ting to the overall question: 'Should we and how can we conserve and develop rock art in the Negev?' (Fig. 1).

The second session consisted of a panel discussion among representatives of public sector organisations who are active in the fields associated with rock art and tourism development. The panel members discussed



Figure 1. British rock art researcher Dr George Nash delivers a talk at the IMPART dissemination symposium in Mitzpe Ramon, Israel, December 2016.

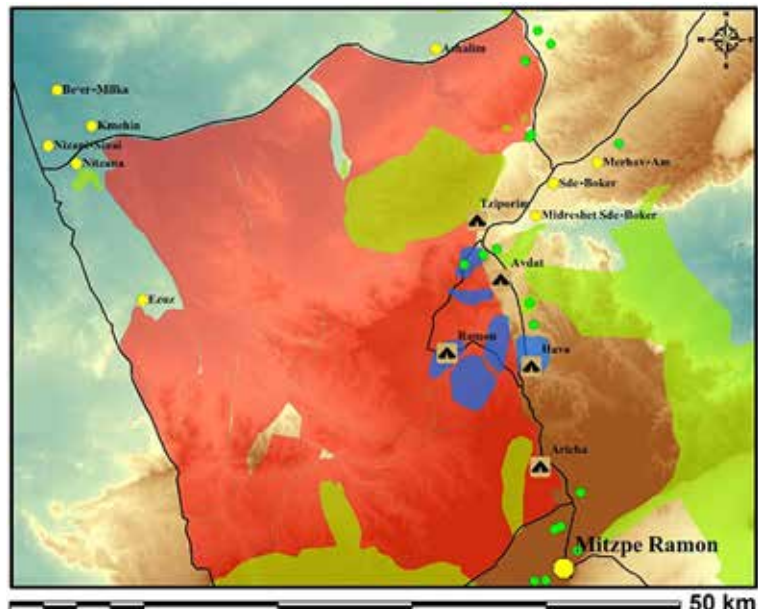


Figure 2. IMPART researchers applied GPS technology to convert their field data into maps that were presented at the symposium. This map depicts the complexity of the landscape in the general Negev rock art area with the rock art (in blue) surrounded by human settlement (yellow), farmsteads (dark green), Bedouin encampments (black), Israeli National Park Authority nature reserves (light green) and Israeli Defence Force firing zones (red).

'conservation vs development of Negev rock art' and 'the need, stance and role the various authorities can take towards the successful management and development of rock art tourism in the Negev' (Fig. 2).

The debates were focused around four prospective scenarios for the management of Negev rock art: (a) public, (b) public-private, (c) full private, (d) pause development in favour of additional research. In all instances, development or use of Negev rock art must adhere to guidelines set by the Israel Antiquities Authority. Relating to these diverse management scenarios, the IMPART researchers offered five guidelines for fostering sustainable Negev rock art conservation, preservation and tourism development.

- *Conceptually*: the absence of a precise narrative and/or knowledge of the historical role of Negev rock art lends tourism developers, promoters and local operators leeway to create storylines per their particular design.
- *Administratively*: ineffective cooperation among the central public and private stakeholders stymies successful regional development. Large-scale rock art tourism development will likely be destructive in terms of environmental sustainability and further scientific research.
- *Scientifically*: a small-scale site combining archaeological research and tourism could serve as an initial pilot for determining specific best practices for future rock art tourism development. Visitors to the field gain a participatory experience by being exposed to genuine research questions, issues and dilemmas.
- *Ethics*: due to the politically charged nature of the region (Fig. 3), all conservation plans must adhere to an ethical code that is universally accepted across the major rock areas of the world, with the Negev rock art tradition being one such area.
- *Functionally*: the uncertain origins of Negev rock art embody a desert mystique; its distinct iconic visual component may be employed for cultivating local identity and destination branding for regional



Figure 3. 'Unrecognised' Bedouin encampment situated below a spur containing Negev rock art. Symposium delegates discussed the past connection the Bedouin have with Negev rock art traditions and conceivable ways to gainfully integrate these communities into forthcoming development within the region.

tourism activities. Shared iconography will also help unite diverse stakeholders whose common interest is the sensible – environmentally, economically and socially sustainable – development of this exceptional cultural heritage resource.

Dr Joshua Schmidt
Dead Sea and Arava Science Centre, Israel
Joshua@adssc.org
RAR 34-1242

Letter to the Australian Heritage Council Quinkan Country proposed National Heritage Listing

The Australian Rock Art Research Association Inc. strongly endorses the nomination of the Quinkan rock art precinct to the National Heritage List. It is one of Australia's most valuable concentrations of immovable cultural heritage sites and as such one of the country's greatest monuments. In contrast to other major rock art corpora it has remained relatively pristine and unencumbered, having been cared for by Traditional Custodians since time immemorial. It is essential that this cultural treasure's future be secured in perpetuity.

We consider the nominated boundaries adequate but hope that outlying sites can later be added to the protected zone. The draft boundary map only shows a limited number of site locations; there are in fact far more sites both inside and outside the boundaries, and significant areas to the west may need to be added to the reserve.

We are concerned about ongoing economic pressures on the region, such as an application for alluvial mining in the Laura valley and a plan for broad-scale agriculture north of Laura. In this context we need to be mindful of the unfortunate consequences of the planning errors in the Dampier Archipelago and elsewhere in the Pilbara region, which have cost the Western Australian state government so dearly: hundreds of millions of dollars wasted and up to \$30 billion lost in corporate investment due to insensitive planning strategies. We now have a fragmented National Park at Dampier, precariously co-existing with a massive industry whose atmospheric acidification is destroying the rock art, with future problems to be envisaged. The industry at Dampier could have been established at countless alternative locations up or down the coast. Let us not make the same planning mistakes in Cape York Peninsula, a still substantially pristine wilderness with one of the most spectacular rock art bodies in the world.

Moreover, at Laura and other places in the area we have ongoing Indigenous custodianship of the rock art sites, continuing the timeless tradition of the ancestors. The Laura trustees of the Quinkan Reserves are currently engaged in recording rock art sites and placing this data on the Queensland Cultural Heritage Database. The traditional owners of this heritage are entitled to secure

its preservation for all future.

Acceptance of Quinkan Country on the National Heritage List is essential and should be seen as a prelude to the inevitable final outcome, of the rock art precinct becoming a National Park. At Dampier, the Murujuga National Park was established exactly four years ago, after a most acrimonious history. Let us not repeat the mistakes made in Western Australia.

Thank you for considering these comments.

Yours sincerely,
R. G. Bednarik
Secretary and Editor, AURA

RAR 34-1243

PAVEL ČERVÍČEK (1942–2015)

Pavel Červíček (1. 1. 1942, Prague – 23. 4. 2015, Darmstadt) studied prehistory (under Professor Jan Filip) and Egyptology (under Professor Zbyněk Žába) at the Faculty of Arts of the Charles University in Prague between 1960 and 1965. It was Žába who promoted his study of rock art, with Egyptology determining not only the regional focus of his research, but also influencing his perspective and methodology. This became evident already in his MA thesis *The significance of patina for assessing Nubian rock pictures* that aimed at verifying the usability of patina differences for dating rock art of Lower Nubia by studying and evaluating the degree of patination of ancient Egyptian rock inscriptions from the same region by means of mathematical and statistical methods (see Červíček 1965; also Červíček 1973; see Vachala and Varadzinová in prep. for a complete list of Červíček's publications on rock art). To devise his system of dating, Červíček made use of the rock art and inscriptional evidence documented by the Czechoslovak expedition in 1963 and 1964 in two sections of the Nile Valley in Lower Nubia in the scope of the UNESCO-organised salvage campaign (Fig. 1).

During most of his life, Červíček engaged in rock art research as an independent researcher, with translation from/to Czech, German, Polish and Russian constituting his main occupation both in Czechoslovakia in the late 1960s as well as in the Federal Republic of Germany where he emigrated following the Warsaw Pact invasion of Czechoslovakia on 21 August 1968. Only between 1969 and 1974, he was affiliated to the Frobenius Institute of the Johann Wolfgang Goethe University in Frankfurt am Main where he was entrusted, thanks to a sponsorship by the Deutsche Forschungsgemeinschaft, with processing and evaluation of the abundant rock art documentation collected by the Institute before 1970.

As a result of his engagement, Červíček published a number of studies concerned with rock art of Ethiopia, Eritrea and the Arabian Peninsula (e.g. Červíček 1971a, 1971b, 1976a) and two rock art catalogues. Of these, *Catalogue of the rock art collections of the Frobenius Institute* contained the unpublished rock art documentation from the Old World, Australia and Oceania and, for a part, of the New World (Červíček 1976b). *Felsbilder des Nord-Etbai Oberägyptens und Unternubiens*, on the other hand, considered more than 500 petroglyphs documented in 1926 by the VIIIth Deutsche Inner-Afrikanische Forschungs-Expedition to the Eastern and Nubian Deserts and the Upper Egyptian Nile Valley, supplemented by 50 petroglyphs from the Lower Nubian Nile valley photographed in 1961 by Klaus Ruthenberg and Uwe Topper (Červíček 1974). In addition to a catalogue, the latter publication provided a detailed overview of history of rock art surveys in the region and, more importantly,

a valuable typology within four main subject-groups of the regional rock art – anthropomorphs, zoomorphs, 'boats', and 'symbols' and 'signs' – that was based on iconographical, archaeological and other sources from well-documented and dated contexts in Egypt and Nubia. The same publication was submitted by Červíček as a dissertation to complete his 1972–1973 doctoral study of pre-History and early History (under Professors Hermann Müller-Karpe and Günter Smolla), ethnology (under Professor and the then director of the Frobenius Institute Eike Haberland) and Egyptology (under Professor Erich Winter of the Johannes Gutenberg University in Mainz).

The rock art of Egypt and Nubia remained the main focus of Červíček's research after his affiliation to the Frobenius Institute ended in 1975, with other regions of north-east Africa and the Arabian Peninsula representing a smaller part in his study (e.g. Červíček 1979, 1990, 1992). He first engaged in elaborating the chronology of Egyptian and Nubian rock art, dating bulk of it *per analogiam* using the rich corpus of two-dimensional (including secondary drawings on built monuments) and three-dimensional representations from well-dated archaeological contexts, as well as by their co-occurrence on rock surfaces with datable rock inscriptions (e.g. Červíček 1978, 1982, 1984).

Having built up a general periodisation of the regional evidence, Červíček put



Figure 1. Pavel Červíček (centre) with members of the 1964 Czechoslovak expedition to Lower Nubia. Photo Archives, Czech Institute of Egyptology, Faculty of Arts, Charles University.

forward an interpretation of the meaning of, and motivation for, the art. Based on ethnographic parallels from Australia, South Africa, and north-west America with rock art practice still alive until recent times and the oral traditions recorded about Libyan and Nubian rock art, Červíček regarded the rock art of Egypt and Nubia, just as any rock art, as primarily religious, with numinous beings, religious symbols and myths constituting its themes and with the very creation of rock art constituting a devotional act in itself. This strictly religious interpretation was presented for the first time in *Rock pictures of Upper Egypt and Nubia* that contained unpublished rock art material documented in the late 1930s by the German ethnologist, rock-art specialist and historian of religions Hans Alexander Winkler (Červíček 1986). Subsequently it appeared in several papers Červíček devoted to (some aspects of) the Egyptian and Nubian rock art (e.g. Červíček 1992–1993, 1994, 1995) and formed part as a Czech résumé of *Katalog der Felsbilder aus der tschechoslowakischen Konzession in Nubien* — a two-volume book that brought to the academic audience the petroglyphs documented in 1963–1965 by the Czechoslovak expedition in the framework of the Nubian campaign (Váhala and Červíček 1999).

The participation in the 1964 epigraphic campaign of the Czechoslovak Institute of Egyptology in Lower Nubia constituted Červíček's first and also his last field experience. The lack of other opportunities to conduct fieldwork had a considerable impact on his further work. First, he had to rely only on documentation collected by others; and, second, it made him turn his attention primarily to iconography. Nevertheless, it is justified to say that he managed to turn this 'handicap' into virtues. While his interpretation of the rock art of Egypt and Nubia has been criticised and is only conditionally accepted, the publication of the large amount of unpublished rock art evidence in the form of catalogues — which is no longer the norm in north-east Africa, with mere reports and overviews published from recent surveys — and the elaboration of the detailed typology of the main subject-groups of the Egyptian and Nubian rock art — particularly that of 'boats' that represent a sensitive chronological element — shall remain valuable contributions to the rock art research in the region.

Lenka Varadinová and B. Vachala

Czech Institute of Egyptology, Charles University, Prague
 sukova.lenka@gmail.com

REFERENCES

- ČERVÍČEK, P. 1965. *Význam patiny pro určování nubijských skalních kreseb* [The significance of patina for determination of Nubian rock pictures]. Unpubl. MA thesis, Charles University in Prague, Prague.
- ČERVÍČEK, P. 1971a. Neue Felsbildstation im südlichen Hidschas. *Paideuma: Mitteilungen zur Kulturkunde* 17: 21–31.
- ČERVÍČEK, P. 1971b. Rock paintings of Laga Oda (Ethiopia). *Paideuma: Mitteilungen zur Kulturkunde* 17: 121–136.
- ČERVÍČEK, P. 1973. Datierung der nordafrikanischen Felsbildern durch die Patina. *IPEK. Jahrbuch für prähistorische und*

ethnographische Kunst 23: 82–87.

- ČERVÍČEK, P. 1974. *Felsbilder des Nord-Etbai, Oberägyptens und Unternubiens. Ergebnisse der VIII. Deutschen innerafrikanischen Forschung Expedition (DIAFE) nach Ägypten, 1926*. Ergebnisse der Frobenius Expedition 16. Franz Steiner Verlag GmbH, Wiesbaden.
- ČERVÍČEK, P. 1976b. *Catalogue of the rock art collection of the Frobenius Institute*. Studien zur Kulturkunde, Volume 41, Franz Steiner Verlag GmbH, Wiesbaden.
- ČERVÍČEK, P. 1976a. Rock engravings from the Hamasén region, Eritrea. *Paideuma: Mitteilungen zur Kulturkunde* 22: 237–256.
- ČERVÍČEK, P. 1978. Notes on the chronology of the Nubian rock art to the end of the Bronze Age (middle 11th cent. B.C.). In *Études nubiennes, Colloque de Chantilly, 2–6 juillet 1975*, pp. 35–56. Bibliothèque d'étude 77, Institut français d'archéologie orientale, Le Caire.
- ČERVÍČEK, P. 1979. Some African affinities of Arabian rock art. *Rassegna di Studi Etiopici* 27: 5–12.
- ČERVÍČEK, P. 1982. Notes on the chronology of Nubian rock art from the end of the Bronze Age onwards. In *Nubian Studies. Proceedings of the Symposium for Nubian Studies, Cambridge, 1978*, pp. 57–63. Aris & Philips, Warminster.
- ČERVÍČEK, P. 1984. Zur Chorologie von Felsbildern der napatansisch-meroitischen Epoche. In F. Hintze (ed.), *Meroitische Forschungen 1980. Akten der 4. Internationalen Tagung für meroitische Forschungen vom 24. bis 29. November 1980 in Berlin*. Meroitica: Schriften zur altsudanesischen Geschichte und Archäologie 7, pp. 424–426. Humboldt-Universität zu Berlin, Akademie Verlag, Berlin.
- ČERVÍČEK, P. 1986. *Rock pictures of Upper Egypt and Nubia*. Annali dell'Istituto Universitario Orientale di Napoli, Supplemento n. 46, fasc. 1, Herder, Rome.
- ČERVÍČEK, P. 1990. Rock art from southern Libya, northern Niger and northern Chad. *Bollettino del Centro Camuno di Studi Preistorici* 25–26: 162–163.
- ČERVÍČEK, P. 1992. Felsbilder von Tewan und Schumagle in Eritrea. In P. O. Scholz (ed.), *Bibliotheca nubica 3, Orbis Aethiopicus II, Studia in honorem Stanislaus Chojnacki*, pp. 297–307. Karl Schuler Publishing, Albstadt.
- ČERVÍČEK, P. 1992–93. Chorology and chronology of Upper Egyptian and Nubian rock art up to 1400 B.C. *Sahara: Prehistory and History of the Sahara* 5: 41–48.
- ČERVÍČEK, P. 1994. Archaische Orantendarstellungen auf ägyptischen und nubischen Felsbildern. In C. Berger, G. Clerc and N. Grimal (eds), *Hommages à Jean Leclant*. Vol. 2., Nubie, Soudan, Éthiopie, pp. 97–103. Bibliothèque d'étude 106, Institut français d'archéologie orientale, Le Caire.
- ČERVÍČEK, P. 1995. Felsbilder und Pyramidentexte. In A. Jockenhövel (ed.), *Festschrift für Hermann Müller-Karpe zum 70. Geburtstag*, pp. 1–10. Kommission bei Dr. Rudolf Habelt GmbH, Bonn.
- VACHALA, B. and L. VARADZINOVÁ in prep. Pavel Červíček: list of publications related to rock art (in a chronological order). *Bibliotheca Orientalis*.
- VÁHALA, F. and P. ČERVÍČEK 1999. *Katalog der Felsbilder aus der Tschechoslowakischen Konzession in Nubien*. Karls-Universität Prag, Verlag Karolinum, Prag.

RAR 43-1244

Rock Art Preservation Fund

Further to previous donations to RAPF (as listed in RAR), the only such fund in the world specifically set up

to combat the destruction of rock art, the fighting fund has received the following recent donations:

\$A30 000.00 from Robert G. Bednarik

\$A150.00 from Tom Osborn

\$A100.00 from Georgie Stubbs

\$A14 060.15 from Layhan Cultural Foundation, Saudi Arabia

\$A5502.45 from royalties of the book *Australian Apocalypse: the story of Australia's greatest cultural monument*

In December 2009, RAPF was established as a recipient for online donations by *Give.Now*, an agency of *Our Community*. Donations to RAPF can now be made online at

<http://www.givenow.com.au/rockartpreservation>

or directly to AURA. All funds received by RAPF will be used exclusively for just one purpose: to secure better preservation of world rock art. One of the Fund's main successes has been the Dampier Campaign, which we believe needs to continue if we are to tackle similar issues elsewhere effectively.

Invitation to publish in Arts

The open access journal *Arts* is producing a special issue on 'World rock art', edited by Robert G. Bednarik. Contributions are invited from all rock art specialists.

The corpus of hundreds of millions of rock art motifs surviving in the world today represents the principal source of information chronicling the cognitive evolution of humanity. It records the world views, concerns, beliefs and communication systems of mostly pre-literate peoples, from the Middle Pleistocene up to the most recent past. It is the largest body available for study that documents the development of the hominin ability of storing memory traces or cultural information external to the brain, as exograms, which is the primary difference between humans and other animals. It precedes systems of writing by up to hundreds of millennia, and it is the main repository of cultural information about nearly all of human history. It amounts to humanity's longest record of cultural rather than technological evidence. In recent years the study of this immense resource has become an increasingly sophisticated scientific field, supplanting traditional approaches of simplistic interpretation and ethnocentric construal. This special issue of *Arts* is dedicated to assembling a collection of scholarly articles that will serve as a benchmark for current research and priorities in rock art research. Contributions are invited on any topic demonstrating the present knowledge state of the discipline, from any continent and from the perspective of any related field. In particular this collection is hoped to illustrate the great diversity of world rock art, which reflects the cultural diversity of humanity, and from which ultimately all recent arts derive.

Manuscripts should be submitted online at *www.*

mdpi.com by registering and logging in to this website. Once you are registered, open the submission form. Papers are being published continuously (as soon as accepted) and will be listed together on the special issue website. Research articles, review articles as well as communications are invited. For planned papers, a title and short abstract (about 100 words) can be sent to the Editorial Office for announcement on this website.

Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere (except conference proceedings papers). All manuscripts are refereed through an external peer-review process. A guide for authors and other relevant information for submission of manuscripts is available on the 'Instructions for authors' page. *Arts* is an international peer-reviewed Open Access quarterly journal published by MDPI in Switzerland.

Please visit the Instructions for Authors page before submitting a manuscript, at <http://www.mdpi.com/journal/arts/instructions>. *Arts* is one of few journals in the substantial MDPI series that still waives the Article Processing Charges for well-prepared manuscripts. English correction and/or formatting fees of 250 CHF (Swiss francs) will be charged in cases of articles accepted for publication that require extensive corrections.

Back issues

Back issues of *Rock Art Research* are available, beginning with the November 1988 issue. For a full set of the journal the cost is \$A330.00, which includes postage in Australia, or US\$340.00 plus applicable postage anywhere else in the world. For international postage rates please contact AURA. These differ significantly between surface and air mail delivery, and surface mail service is not available to New Zealand and Asia Pacific.

However, this same set of *RAR*, minus four issues that are almost out of print, is available for a limited period for just \$A200.00 within Australia (plus difference in postage costs elsewhere).

Individual copies or annual volumes are available at the current rates. Please order back issues from:

AURA

P.O. Box 216

Caulfield South, VIC 3162

Australia

or auraweb@hotmail.com. We accept Visa and MasterCard.

Electronic format of RAR

Rock Art Research is now available electronically from several commercial providers licensed by *RAR*:

The H. W. Wilson Company, 950 University Avenue, Bronx, NY 10452, U.S.A., www.hwwilson.com
EBSCO Publishing, 10 Estes Street, Ipswich, MA 01938,

U.S.A., www.ebscohost.com
 Thomson Reuters, 3501 Market Street, Philadelphia, PA
 19104, U.S.A., scientific.thomsonreuters.com
 RMIT Publishing, 449 Swanston Street, Melbourne, VIC
 3000, Australia; www.rmitpublishing.com.au

Please recommend institutional subscriptions

Members of AURA and subscribers of *RAR* who work at universities, museums and other institutions maintaining research libraries are cordially invited to persuade their librarians to take out subscriptions of *RAR*. The journal is heavily refereed, in fact worldwide it is the only peer-reviewed journal in its field, and yet it is also the cheapest anthropological or archaeological, international journal in the world. To keep it so affordable, please help increase its circulation.

Advertising

RAR accepts relevant advertising material. Rates for advertising in *RAR* are very competitive, currently at \$A350.00 per full page, \$A200.00 per half page.

Thanks to RAR referees

Articles in *RAR* undergo two levels of peer review: open academic debate, to which all readers are invited to contribute (every signed contribution in this journal may be responded to); and pre-publication refereeing. All major and many shorter contributions to *RAR* are refereed, by between three and eight specialist readers, before they are considered for publication. It is the task of referees to preserve and safeguard the high scholarly standard this journal has long established in rock art and palaeoart studies. This may involve a great deal of work for them, in terms of studying submitted work, suggesting improvements, detecting errors of fact, logic or data; writing referee reports (that may in some cases be longer than the paper in question), and assisting the editor in reaching decisions. This work receives no public recognition; authors are often not even aware who their referees are (because referees have the option of remaining anonymous). It is a thankless task, but one without which we would not have a scientific discipline.

The referees of *RAR* are drawn from the Board of Editorial Advisors; from a register of AURA members who are internationally recognised scholars of outstanding calibre; and sometimes from among the ranks of related disciplines (where warranted by the particular nature of a submitted paper). It is obviously not possible to disclose their identity in most specific cases, but in order to thank them collectively we believe that it is more than appropriate that their enormous contribution be acknowledged once in a while. Those who have contributed to recent volumes are listed here, and we take this opportunity to thank each and every one of these scholars

for their selfless and gracious dedication to maintaining the scientific standard of the world's foremost journal in rock art studies — a standard that would not have been achievable without their altruistic help:

Dr Ahmed Achrafi, U.S.A.
 Sajjad Alibaigi, Iran
 Dr Maxime Aubert, Australia
 Esmail Hemati Azandaryani, Iran
 Dr Chris Ballard, Australia
 Professor Jane Balme, Australia
 Dr Dominique Ballereau, France
 Dr Lawrence S. Barham, United Kingdom
 Dr Mara Basile, Argentina
 Dr Friedrich Berger, Germany
 Dr Fernando Berrojalbiz, Mexico
 Professor Paul Bouissac, Canada
 Dr John J. Bradley, Australia
 Professor John Bradshaw, Australia
 Dr Liam M. Brady, Australia
 Dr Felipe Armstrong Bruzzone, Chile
 Alice Buhrich, Australia
 Dr Margaret Bullen, Australia
 Duncan Caldwell, U.S.A.
 Professor John Campbell, Australia
 Dr Natalia M. Carden, Argentina
 Dr Jean-Michel Chazine, France
 Dr Jean Clottes, France
 Dr Noelene Cole, Australia
 Professor J. M. Coles, United Kingdom
 Professor Nicholas J. Conard, Germany
 Tony Convey, Australia
 Mark Crocombe, Australia
 Dr Bruno David, Australia
 Dr Janette Deacon, South Africa
 Professor J. B. Deręowski, United Kingdom
 Dr Julien d'Huy, France
 Dr Margarita Díaz-Andreu, Spain
 Dr Robert Dielenberg, Australia
 Dr Gianpiero di Maida, Germany
 Professor Ellen Dissanayake, U.S.A.
 Dr Livio Dobrez, Australia
 Dr Patricia Dobrez, Australia
 Dr Mike Donaldson, Australia
 Jeff Doring, Australia
 Professor Deirdre Dragovich, Australia
 Michael J. Eastham, United Kingdom
 Gori Tumi Echevarría López, Peru
 Dr Arsen Faradzhev, Russia
 Professor Paul E. Faulstich, U.S.A.
 Leila Fazel, Iran
 Professor Francesco G. Fedele, Italy
 Dr Danae Fiore, Argentina
 Dr Josephine Flood, United Kingdom
 Dr David Frankel, Australia
 Dr Natalie R. Franklin, Australia
 Dr Alan P. Garfinkel, U.S.A.
 Dr Leslie Van Gelder, New Zealand
 Taher Ghasimi, Iran
 Sirwan Mohamadi Ghasrian, Iran

- Dr Mary L. Gillam, U.S.A.
 Dr Juan Sanguino González, Spain
 Dr Olga Gostin, Australia
 Dr John Greer, U.S.A.
 Dr Mavis Greer, U.S.A.
 Dr R. G. ('ben') Gunn, Australia
 Dr Ulrich W. Hallier, Germany
 Dr Duane W. Hamacher, Australia
 Dr Judith Hammond, Australia
 Dr Jörg W. Hansen, France
 Dr Frederick E. Hardtke, Australia
 Dr James Harrod, U.S.A.
 Professor Knut Helskog, Norway
 Dr Patricia Helvenston, U.S.A.
 Professor Maciej Henneberg, Australia
 Dr Derek Hodgson, United Kingdom
 Dr Jillian Huntley, Australia
 Dr Dirk Huyge, Belgium
 Professor Esther Jacobsen, U.S.A.
 Dr Jin Anni, China
 Dr Anthony M. Judd, U.K.
 Ebrahim Karimi, Malaysia
 Mehdi Kazempur, Iran
 Dr Majeed Khan, Saudi Arabia
 R. G. Kimber, Australia
 Jane Kolber, U.S.A.
 Dr E. C. Krupp, U.S.A.
 Professor Giriraj Kumar, India
 Jamal Lahafian, Iran
 Dave Lambert, Australia
 Professor Robert H. Layton, United Kingdom
 Dr Liudmila Lbova, Russia
 David Lee, U.S.A.
 Dr Abdelkhalek Lemjidi, Morocco
 Dr Tilman Lenssen-Erz, Germany
 Dr Jean-Loïc Le Quellec, France
 Dr Jannie Loubser, U.S.A.
 Dr Susan Lowish, Australia
 Dr Ian Macleod, Australia
 Dr Lambros Malafouris, Australia
 Professor Ekkehart Malotki, U.S.A.
 Dr Robert Mark, U.S.A.
 Leigh Marymor, U.S.A.
 Dr Sally May, Australia
 Professor Jo McDonald, Australia
 John McGovern, Australia
 Dr Ian McNiven, Australia
 Dr Mark Milburn, United Kingdom
 Sally Minchin, Australia
 Dr Yann-Pierre Montelle, New Zealand
 Professor Oscar Moro Abadía, Canada
 Dr Ken Mulvaney, Australia
 Dr George Nash, United Kingdom
 Professor Erle Nelson, Canada
 Dr Karen M. Nissen, U.S.A.
 Professor Ray Norris, Australia
 Professor Sue O'Connor, Australia
 Professor Masaru Ogawa, Japan
 Adhi Agus Oktaviana, Indonesia
 Dr Sven Ouzman, Australia
 Professor John Parkington, South Africa
 Dr E. Breck Parkman, U.S.A.
 Dr Carol Patterson, U.S.A.
 Professor M. Mercedes Podestá, Argentina
 Dr Martin Porr, Australia
 Professor Roy Querejazu L., Bolivia
 Dr Angus R. Quinlan, U.S.A.
 Dr Michael P. Rainsbury, United Kingdom
 Jordan Ralph, Australia
 Dr Amy Roberts, Australia
 Professor June Ross, Australia
 Professor Marvin Rowe, U.S.A.
 Michael J. Rowland, Australia
 Professor Chris Scarre, United Kingdom
 Dr Polly Schaafsma, U.S.A.
 Joc Schmiechen, Australia
 Dr Urs Schwegler, Switzerland
 Susan Searight, Morocco
 Caryll Sefton, Australia
 Professor Dario Seglie, Italy
 Dr Marcela A. Sepulveda R., Chile
 Professor Talia Shay, Israel
 Peter Sims OAM, Australia
 Professor Claire Smith, Australia
 Professor Denise Smith, U.S.A.
 Dr Mike Smith, Australia
 Dr Kalle Sognnes, Norway
 Dr Anne Solomon, South Africa
 Dr Göran Sonesson, Sweden
 Professor Jack Steinbring, U.S.A.
 George Steiner, Switzerland
 Professor Ben Swartz, U.S.A.
 Lance Syme, Australia
 Dr Jussi-Pekka Taavitsainen, Finland
 Professor Paul S. C. Taçon, Australia
 Dr Noel Hidalgo Tan, Malaysia
 Professor Tang Huisheng, China
 Dr Rakesh Tewari, India
 Professor Jason R. Thompson, U.S.A.
 Rob Tickle, Australia
 Professor Andrés Troncoso, Chile
 Dr Benjamin Valdez, Mexico
 Dr Daniela Valenzuela, Chile
 Professor Raoni Valle, Brazil
 Marco Antônio Corrêa Varella, Brazil
 Dr Eva Walderhaug Sætersdal, Norway
 Dr Steven J. Waller, U.S.A.
 Dr Graeme Ward, Australia
 Professor Alan Watchman, Australia
 Dr Benjamin Watson, Australia
 Dr David M. Welch, Australia
 Professor D. Clark Wernecke, U.S.A.
 Dr Daryl Wesley, Australia
 Dr Duncan Wright, Australia
 Dr Thomas W. Wyrwoll, Germany
 Dr Jose A. Gonzalez Zarandona
 Professor Zhang Yasha, China
 Reto Zollinger, Australia



Rock Art Studies Bibliographic Database ©

https://musnaz.org/search_rock_art_studies_db/

- ✓ **35,000 citations** to the **World's rock art literature**
- ✓ Over 100 archives, web portals, bibliographies, library catalogs and other miscellaneous sources are actively consulted
- ✓ Includes books in and out of print, journals, conference proceedings, periodicals, gray literature, and ephemera
- ✓ The bibliographic data is **searchable** in the following fields: author, title, place name, subject keyword, abstract, and ISBN/ISSN
- ✓ Recipient of the 2002 ARARA Castellon Award for excellence in Rock Art Research

"The most important resource of its kind."

Robert Bednarik, IFRAO Convener

"My felicitations for your extraordinary work! This is of great interest for the scholars, student[s], institutions and museums working on Rock Art."

Dario Seglie, Liason Officer, IFRAO – UNESCO – ICOM

"Awe inspiring," Jeff Fentress, Archaeologist
California State University, San Francisco

"I have recently discovered your rock art studies bibliographic database on the internet and it is fantastic – I just wanted to email you and say thank you for compiling it and making it available to the public."

kindest Regards, Sue

[an anonymous visitor to the site]

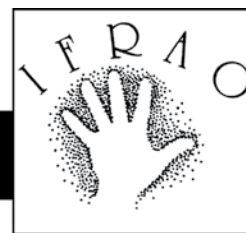
"Thank you for a wonderful resource which I consult regularly."

Aron Mazel, Lecturer, Newcastle University



Negev Desert, Israel

IFRAO Report No. 58



CALL FOR PAPERS

The IFRAO Congress 2018 will be held at Darfo Boario, Valcamonica, northern Italy, from 29 August to 2 September 2018 (*RAR* 34-1: 119–120). The rock art researchers of the world are invited to prepare titles and abstracts for presentations in the following sessions:

A northerner's view on rock art.

Aspects, mobility and materiality on the Scandinavian rock art

Johan Ling, Sweden, *Swedish Rock Art Research Archives, Department of Historical Studies: Göteborgs Universitet, Sweden*; Jan Magne Gjerde, *Department, of History and Religious Studies. UiT - The Arctic University of Norway, Norway*.

The intention of this session is to shed light on Scandinavian rock art regardless of regions, traditions time and space. There has been a tendency among rock art research to merely focus on either the Northern Rock Art Tradition (NT) or the Southern Tradition (ST). There exist some general similarities in terms of the location of rock art, narratives, chronology and formats used in time and space between these traditions but also obvious differences. Thus, the objective with this session is to stimulate different perspectives and themes that highlights the intersection between these two rock art traditions in Scandinavia.

Advances in rock art research from the Kimberley, north-west Australia

Peter Veth, *Centre for Rock Art Research, The University of Western Australia, Crawley, Australia*; Jane Balme, *Centre for Rock Art Research, The University of Western Australia, Crawley, Australia*; Sue O'Connor, *School of Culture, History & Language, ANU College of Asia and the Pacific. Australian National University, Canberra, Australia*

This session aims to profile a suite of current and past Australian Research Council and other research projects from across the Kimberley over the last decade.

a) Regionalism in Kimberley rock art: the Kimberley has been characterised as a style province for over 40 years even though it shares many style elements with Arnhem Land. There are also significant variations within the Kimberley repertoire at the regional and sub-regional level. Clearly different scales of spatial resolution will be fruitful in addressing both a) shared style elements over larger areas, and b) understanding variability at the (sub)regional level as a product of socio-linguistic, demographic and temporal factors.

RATIONALES
OF THE
SESSIONS



b) Advances in dating rock art: multi-institutional projects are developing novel methods and techniques to date the stylistically distinct art periods from the Kimberley. These include U-series dating of mineral crusts (beyond oxalates), cosmogenic radionuclide dating of scars and roof fall events, and a combination AMS and OSL dating of mud-wasp nests and plasma oxidation pre-treatment for AMS dating.

c) Art within archaeological contexts: the excavation of occupation sites associated with art production has increased in northern Australia, adopting an archaeo-morphology approach as advocated from work in the Aurignacian-aged cave systems of France (such as Grotte Chauvet) and sites like Nwarla Gabarnmang in the Northern Territory. The approach can recover plaques with pigment art fallen from rockshelter walls and re-fitted using laser techniques. Micro-fragments of ochre as well as crayons can be recovered as well as paint splashes and other forensic traces. In addition, other types of symbolic behaviours (such as ornament production and ochre application on human bodies, wooden artefacts and stone tools) can also be deduced from recovered assemblages. Recent research projects adopting these approaches will be profiled.

d) Contact rock art: the North-West of Australia has a long history of contact spanning the era 1606 until the 20th century and possibly earlier from pre-Macassan voyagers from SE Asia. These encounters and sometimes economic and social relations are captured in contact art ranging from various sailing vessels from SE Asia, Europe and the Americas through to pastoral themes such as the buggy, horse and rifle.

e) Advances in theory: both existing and new theoretical approaches deployed to understand Kimberley rock art will be profiled in this strand with a focus on their utility in describing changes in wider occupation patterns through space and time. Approaches will likely include: formal methods, style aesthetics and context; information exchange theory; engendered and subaltern approaches; group boundary formation models; relational ontologies; phenomenological approaches, personhood and identity; and PCA analysis of style and language congruence.

And the Holocene arrived:

post-Palaeolithic rock Art around the world

Hipólito Collado Giraldo, *ACINEP - Asociación Cultural Instituto de Estudios Prehistóricos, Spain*; José Julio García Arranz, *Universidad de Extremadura, Departamento de Arte y Ciencias del Territorio, ACINEP - Asociación Cultural Instituto de Estudios Prehistóricos, Spain*; Manuel Bea, *Área de Prehistoria. Dpt. Ciencias de la Antigüedad. Universidad de Zaragoza, Spain*

Many times, we have read that the most important and fruitful stage of prehistoric rock art finished with the end of the Palaeolithic Age. This is so because the traditional research and the people in general have tended to value more the indisputable aesthetic criteria and the greater antiquity of Palaeolithic rock art, in contrast to the more synthetic and conceptual expressions of post-Palaeolithic rock art. However, against this simplistic assumption, this session will attend to those aesthetic values of the post-Palaeolithic rock art manifestations around the world and also its intrinsic values as cultural expression of human groups. Over the last 10 000 years human groups were able to surpass an hunters-gatherers economic bases to reach

new productive systems, linked initially to agriculture and livestock and further on to the increased exchange of surpluses and the new technological achievements in the exploitation and use of metals (copper, bronze and iron), that will lead to increasingly complex societies. A social, technological and cultural evolution/revolution that is, in every time, closely linked to different rock art expressions, unique in every part of the world, but common in its interpretative and functional value. A lot of questions arise: Is it possible to observe thematic and stylistic analogies depending on the socio-economic bases of each group in different parts of the World? What factors could influence the artistic expression of each group in each moment and in each territory? Are naturalism and schematism tendencies different stylistic responses according to particular socio-economic developments, or are they styles associated with evolution and cognitive development processes? Is it possible to observe the same evolution (stylistic, symbolic, functional) in post-Palaeolithic art all over the world or can we seek some aspects evolving in response to regional factors? This session, aims to be a pooling of this worldwide post-Palaeolithic rock art, a platform for the presentation of new and more important findings, a discussion forum to address interpretative, terminological, chronological, technical aspects to improve our knowledge about every one of these expression forms.

Anthropomorphic images in rock art

G. Terence Meaden, *British Rock Art Group, Oxford, UK*; Herman Bender, *Hanwakan Center for Prehistoric Astronomy, Cosmology and Cultural Landscapes, Fond Du Lac, WI, USA*

Anthropomorphic images appear widely across the world of rock art from the Upper Palaeolithic through to the Neolithic and Bronze Age, and for some continents to later yet still prehistoric times. Artwork relevant to this session may be paintings, engravings or scratchings on cave walls, or as images pecked into rocky surfaces or on standing stones. The session is directed at anthropomorphic images in which the possibility of recovery of the meanings intended by the artists and sculptors exists. Such prospects might relate to known or inferred legends, myths or folklore, and include matters that recognise the unremitting importance of human, animal and crop fertility to humankind. Art forms may be present in whole or as *pars pro toto*, in which a part stands for or symbolises the whole. Images or artistic compositions may articulate, in ways more or less manifest, scenes of dramatic action as with hunting and dancing, mating and birthing, ritual and ceremony, some of which may overtly or latently express yearnings for the rewards of fruitful fecundity.

Archaeo-acoustics for rock art studies

Steven J. Waller, *Archaeoacoustics, La Mesa, CA, USA*; Legor Reznikoff, *Département de Philosophie Université Paris-Nanterre X, France*

This session will focus on multidisciplinary approaches to the study of sound relative to rock art. Topics will cover a wide range, including: theoretical frameworks of acoustical archaeology; the physics of various sound phenomena; quantitative methodologies for accurately documenting and presenting acoustical characteristics of rock art site soundscapes vs. surrounding non-decorated locations; psychoacoustics of sound perceptions and neurological processing; use of ethnography and mythology

for comparing and contrasting cultural influences in ancient vs. modern scientific cultures; analysis of rock art iconography for evidence of response to sound, such as representations of musical instruments, dancing, mythical noise-making beings, thunder, and potential abstract symbols of sounds; Valcamonica rock art sites, as well as global archaeological sites.

Key questions and considerations to be addressed include: best practices for studying the interactions of the dimensions of sound and sight; how to address changes over time in the sonic qualities of archaeological sites, as well as changes in the culturally influenced cognitive perceptions of those sounds; the future role of rock art studies in archaeo-acoustics, and how archaeo-acoustics can inform rock art studies.

Challenges and changes for rock art research in the digital age

Julian Jansen van Rensburg, *Freie Universität Berlin, Dahlem Research School, Berlin, Germany*; Bernadette Drabsch, *School of Creative Industries, Faculty of Education and Arts, University of Newcastle, Australia*; Rebecca Döhl, *Humboldt-Universität, Department of Archaeology, Berlin, Germany*

Rock art research has undergone a radical transformation over the last few decades as researchers are finding alternative ways to document, analyse and present their research. Much of this is based around digital enhancement and recording technologies that are providing us with new and innovative ways to capture, process, visualise and interact with rock art and rock art sites. Additionally, these technologies are creating a new set of practical challenges related to the curatorship and management of these digital rock art archives. In this session we aim to draw attention to these alternative methodologies and the challenges that rock art researchers are facing by focusing on a series of themes related to: recording and dissemination of rock art; digital curatorship of rock art; rock art heritage management; rock art outreach. The intention of this session will be to bring together speakers that are using new, innovative and alternative ways to deal with rock art and provide a platform from which they are able to share the challenges and changes these methodologies have brought. We envisage that this session will provide a stimulating setting for enriching discussions and allow for interesting heuristics that can help challenge and transcend many of the common regional and conceptual departmentalised approaches plaguing rock art studies.

Cultural context and significance of eastern Polynesia and Easter Island's rock art and pictographs

Patricia Vargas Casanova, *Departamento de Antropología, Santiago, Universidad de Chile*; Claudio Cristino-Ferrando, *Easter Island and Oceania Studies Centre, Departamento de Antropología, Santiago, Universidad de Chile*

Pictographs and petroglyphs are one of the most numerous archaeological features recorded throughout the archaeological landscape of numerous Polynesian islands. They are the residue, often extremely fragmentary, of a human activity. In turn, as a cultural object, they are the material expression of a concurrent set of alternative actions and these actions are the reflection of patterned behaviour. Our object of study is thus the reflection of an activity that we

suppose recoverable and intelligible. We discuss the iconographic analysis (Leroi-Gourhan 1975; Echo 1978, 1985) of a sample of rock art, in its archaeological context, certainly critical in its structural interpretation, which offers interesting correlations with patterns of relevance in the reconstruction of the sociopolitical and religious evolution of Polynesian pre-European culture. We examine a subject of considerable discussion in contemporary archaeology: is the 'recovery of the mind' or reconstruction of prehistoric cognitive patterns an attainable archaeological goal? We will use the rich ethnographic tradition of phylogenetically related cultures in Polynesia to develop interpretations of the meaning of Polynesian rock art.

Current research in the rock art of the eastern Sahara

Paolo Medici, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy, and Freie Universität, Fachbereich Geschichts- und Kulturwissenschaften, Berlin, Germany*; Maria Carmela Gatto, *School of Archaeology and Ancient History, University of Leicester, UK*; Paweł Lech Polkowski, *Poznan Archaeological Museum, Poznan, Poland*; Heiko Riemer, *Institute of Prehistoric Archaeology, University of Cologne, Germany*; Frank Förster, *Ägyptisches Museum der Universität Bonn, Bonn, Germany*

The area of the Eastern Sahara (Egypt and Sudan) has been a crossroads for people, goods and ideas from the Palaeolithic onward and their inhabitants have left testimony of their lives, beliefs and history on the rocky landscape across deserts and along the Nile. In the last decades, research on rock art has increased considerably breaking grounds in advancing theoretical and methodological approaches, as well as in contextualising art in its cultural and natural settings. This session aims at discussing current research in the rock art of the Eastern Sahara, focusing on the following topics: regional overviews and rock art distribution; rock art and the landscape; style analysis; chronology and advances in dating rock art; rock art within archaeological contexts; multidisciplinary approaches; interpretation; recent discoveries.

Distribution, chronology and territoriality of Upper Palaeolithic rock art. New discoveries and new approaches towards a review of the phenomenon

Dario Sigari, *Università degli Studi di Ferrara, Erasmus-Mundus International Doctorate, Ferrara, Italy*; Marco Garcia Diez, *Universidad del País Vasco (UPV) Euskal Herriko Unibertsitatea (EHU), departamento Geografía, Prehistoria y Arqueología, Vitoria-Gasteiz, Spain*; Valerie Feruglio, *PACEA, UMR5199, Université de Bordeaux, France*

During the last ten years, new Palaeolithic rock art sites have been discovered and important reviews of already known sites have been carried out. We are now called to rethink and reframe this heritage in the light of the latest investigations. Two new visions are marking the new research perspectives: a) the 'beyond its territory' approach and b) the expansion of knowledge of non-strictly-European rock art complexes. The open air rock art of Gobustan, Azerbaijan, and Qurta, Egypt, has incredibly stretched the boundaries of this cultural expression. From the easternmost foothills of the Caucasus, to the north-east of Portugal and passing through Egypt, it appears

that symbols and figurative styles might potentially be shared. This territorial 'expansion' marks a change of Palaeolithic rock art, showing a greater complexity and graphic variability within a same formal, conceptual and possibly interpretative tradition. In this context, it is very important to know the chronology of cave art, to be able to characterise specific moments and to establish links and graphical networks. Applications such as the ^{14}C AMS, uranium series and OSL represent a development in our knowledge, as well as graphic trends of stylistic, technical and territorial type. The so-called cave art has seen an important review of its chronology and distribution, thanks to new dating methods and new discoveries, e.g. recently discovered caves in north of Spain. Chronology and territoriality are the two variables at the centre of the debate about Palaeolithic rock art, which would be sterile if limited to an abstract analysis of these topics. Rock art should be considered as a cultural witness of societies, as a unique element to be added to other prehistoric disciplines, in the understanding of the social processes that occurred during the Upper Palaeolithic. In 2007, Bicho *et al.* wrote: 'In the future it will be necessary to continue this line of research to really understand Palaeolithic graphic imagery in relationship to the territorial dimension of human groups. To do otherwise would be to undervalue the complex territorial reality that characterized the end of glacial times in Europe'. Ten years later we suggest a development of this proposal, discussing the new discoveries and the new research approaches relating to the territorial dimension of human groups and to the social processes occurred during the Upper Palaeolithic during its different phases.

Experiences of colonisation: rock art as a 'subaltern' narrative of Indigenous and First Nation Peoples lived experiences during colonial times

Daryl Wesley, *College Administration, ANU College of Asia & the Pacific, Canberra, Australia*; Cristiane Buco, *IPHAN - Instituto do Patrimônio Histórico e Artístico Nacional, Fortaleza, Fundação Museu do Homem Americano, Brazil*

It can be argued that rock art is likely to reflect moments of culture-contact that has occurred between very different cultural groups throughout human history. This session examines the evidence of culture-contact that was experienced by Indigenous and First Nation peoples during the more recent phases of European colonisation that took place in many regions of the world. In particular, this session draws on the 'subaltern history movement' or 'history told from below' where the historiographic writing has questioned dominant nationalist narratives where they represent only the history of 'elites' or the colonial state. There is greater understanding from this historical research of the ways that Indigenous and First Nation peoples engaged with the colonial state and settler society. The objective is to draw attention to the differing Indigenous and First Nation people's understandings of colonialism by bringing together global examples of the colonisation experiences as demonstrated in their rock art. Rock art produced during colonial periods of history illustrate distinct maritime and terrestrial themes including ships, structures, wagons, objects, firearms, introduced animals and various scenes of interaction notably with an emphasis on conflict. Therefore we would like to invite

papers that investigate rock art from this colonial period and have explored the narratives that were being communicated by the production of these rock art assemblages.

Inscriptions in rock art

Stefania Casini, *Civico Museo Archeologico di Bergamo, Bergamo, Italy*; Angelo Eugenio Fossati, *Università Cattolica del Sacro Cuore, Milano*; Cooperativa Archeologica 'Le orme dell'Uomo', *Italy*; Blanca María Prósper, *Departamento de Filología Clásica e Indoeuropeo, Universidad de Salamanca, Spain*; Joan Ferrer i Jané, *LITTERA Group, Universidate de Barcelona, Spain*; Mohammed Maraqtan, *Center for Humanities and social Sciences, Qatar University, Doha, Qatar*

The research of inscriptions is often an underrated subject within the field of rock art studies. These inscriptions document the appearance of writing in different regions supporting the different chronologies around the globe. This session will welcome reports concerning: the different writing traditions in the world from their origins to the present day; the techniques of their production on the rocks; the palaeographic analysis; chronologies; meanings and contexts. Priority is given to the following issues: alphabets; inscriptions at high altitude and at passes and crossings; funerary inscriptions; didactic inscriptions; inscriptions of chronicles; votive and religious inscriptions; border inscriptions.

The history of rock art research

Jamie Hampson, *Centre for Rock Art Research and Management, University of Western Australia, Australia*; Joakhim Goldhahn

Histories of archaeology often imply that, until recently, there were no systematic studies of rock art. Some studies devote two or three pages to rock art studies; others do not mention rock art at all. This bias has many roots, one being the lack of incorporating personal and institutional archive materials into rock art studies; indeed, most archaeological research before the Modern Era of Christian Jürgensen Thomsen and others did not end up in printed books. Implicit theoretical biases within the discipline of archaeology have also led to the privileging of stratigraphic excavation in describing the history of archaeology. Ironically echoing the famous notion that 'American archaeology is anthropology or it is nothing', the implication in these histories is that without stratigraphy, archaeology is nothing. Rock art researchers have in fact successfully married data collection with theory for more than 300 years. Indeed, some researchers were pioneers in defining the intellectual concepts and frameworks that are still used in cognitive, heuristic, and problem-oriented research today. We do not suggest that there is a single factor that unites or unites rock art researchers; nor do we claim that there is a neat evolutionary tale running through the history of rock art research. In this session, however, we invite speakers to concentrate on the aims and successes of both famous and less well-known rock art studies, both chronologically and thematically, and show that rock art researchers helped to shape the discipline of archaeology. We aim to demonstrate that rock art research did and does matter.

Made for being visible. Developing 3D methodologies for the study of rock art carvings. Managing suitability in sites with rock art

Miguel Carrero-Pazos, *Departamento de Historia, GE-*

PN-AAT, Universidade de Santiago de Compostela, Spain; Benito Vilas-Estévez, Departamento de Historia, Arte e Xeografía, Universidade de Vigo, Spain; Alia Vázquez-Martínez, Departamento de Historia, GEPN-AAT, Universidade de Santiago de Compostela, Spain

Doubtless, the expansion of computer research throughout archaeological science had contributed to the growth of new different approaches in archaeological research, and one of them had been the representation and study of archaeological sites and objects by their virtual reconstruction (3D). This is particularly clear in rock art studies where 3D modelling had been one of the most important revolution, in which corresponds to documentation methods and evaluation of the rocks. However, there is a clear lack of standards concerning which are the best methods to use or which is the basic workflow to ensure the most accurate reproduction. The purpose of this session will be to present different case-studies, centred on the application of 3D modelling and post processing techniques in relation to the study of rock art carvings. It seeks for examples where the use of different virtual documentation methods had implied a better understanding and knowledge in rock art panels. In this sense, the aim of the meeting will be to learn from those heterogeneous experiences, and show how the use of 3D techniques might help to a better documentation in rock art studies, a main step in which it corresponds to interpretation. Four lines of interest are proposed, such as: (1) current methods for rock art recording. From traditional (hand-made) methodologies to the use of new technologies (laser scanner, photogrammetry); (2) constructing the mesh. The first (main?) part of the workflow? (3) Post processing techniques. Artificial lights, automatic ways to enhance the motifs. (3) Going over the 3D model. Generate virtual tracings of rock art panels. Communications and posters will be welcome. Especially those that deal with new computer approaches to study rock art 3D models. Demonstrations of software or 3D analysis are also welcome in this session, in order to get a more practical meeting rather than a traditional one.

Managing sustainable rock art sites

Tiziana Cittadini, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy*; Ramon Montes, *Itinerarios Culturales del Consejo de Europa 'Camino de arte rupestre Prehistórico', Universidad de Santander, Spain*; Luis Jorge Gonçalves. *Cieba, Centro de investigação e de estudos em belas-artes, Universidade de Lisbon, Portugal*

In the 1980s, at least in Europe, rock art sites, in their own right, became part of the great family of museums. This led to a need for diverse measures in areas open to the public, in terms of infrastructure (roads and access routes, cover, fencing etc.) and improved accessibility (trails with moderate slopes, guardrails, facilitated routes, and so on), as well as educational resources (explanations, signage and so forth). On one hand, the measures greatly enhanced enjoyment and cultural recognition of the heritage, but on the other, quite changed the context of landscapes in which Casini rock art occurs, affecting the relationship between rock surfaces and encompassing environment, as well impinging on scientific research.

This session aims to open a debate on issues facing those (academics and managers) who work in these contexts, analyse problems that have emerged in recent years, examine different cases and prospective solutions — in essence,

how to reconcile the dynamics of museum display with the maintenance of the environmental context of rock-art sites. The issues to be addressed (supported by concrete examples) include the following: visitor sustainability (needs and demands required by museological display of a site) and mitigating the degradation of original environmental contexts, technologies and their applicability in rock art sites, the original document and proposals for augmented reality, educational comparison.

'Mens simbolica' (symbolic mind): questions on the mythic-symbolic process, from prehistory to the present day

Umberto Sansoni, *Dipartimento Valcamonica e Lombardia, Centro Camuno di Studi Preistorici, Capo di Ponte, Italy*; Pier Luigi Bolmida, *A.A.S.S./L.L. della Regione Piemonte, Italy*; Federico Mailland, *CISPE - International Centre of Prehistoric and Ethnologic Studies, Associazione Lombarda Archeologia*; Gabriella Brusa Zappellini, *Università Associazione Lombarda Archeologia, Italy*

The session focuses on the symbolical investigation in the frame of the prehistoric and ethnologic rock art. There will be contributions both on the universal subjects, defined as archetypes, playing attention to the widespread iconographic convergences, and on the individual cultures with derived diffusion phenomena. In line with several similar circumstances, the approach will be interdisciplinary: based on the archaeological evidences, comparisons will be presented with historical-religious, ethnographic, psychoanalytic and, in general, anthropological and phenomenological perspective.

Modern (re)uses of rock art: art, identity and visual culture

Andrzej Rozwadowski, *Institute of Eastern Studies, Adam Mickiewicz University, Poznan, Poland*; Jamie Hampson, *Centre for Rock Art Research and Management, University of Western Australia, Australia*; Marta Smolinska, *University of Fine Arts in Poznan, Poland*

Contrary to significant advances in archaeological approaches, little research has been done on contemporary uses of rock art: How does rock art influence and shape different spheres of contemporary societies? Often 'arranged' into protected sites open for tourists, and accessible through books and the internet, rock art is now easily reached by people today. Rock art is increasingly a popular topic of visual culture – it is used politically, socially, ideologically, religiously and artistically. In this session, we look for examples of such reuses of rock art from different places and cultures all over the world. Questions we ask include: What inspires contemporary artists (and not only artists) to use rock art? Is it simplicity of form, assumed simplicity of meaning, or assumed complexity of ideas hidden in rock art? To what extent are contemporary artists inspired by or influenced by scientific interpretations of rock art? How does the reuse of rock art differ in the Western world as opposed to within indigenous societies? How and why is rock art used to promote concepts of country, state, region, and culture? How is rock art presented in the media? Can rock art be a new source of cultural or ethnic identity? To what extent does professional archaeological and anthropological research influence contemporary uses of rock art?

New research in the rock art traditions of the Alps

Andrea Arcà, *Coop. 'Le Orme dell'Uomo' & Università di Pisa, Dipartimento di Scienze dell'Antichità e Archeologia, Italy*; Angelo Eugenio Fossati, *Coop. 'Le Orme dell'Uomo' & Università Cattolica di Milano, Italy*; Damien Daudry, *Société Valdôtaine de Préhistoire et d'Archéologie, Aosta, Italy*; Silvia Sandrone, *Musée départemental des Merveilles, Tende, France*

Several rock art traditions are evident in the alpine areas of Europe, among the most known are those of Mont Bego and the Valcamonica-Valtellina engravings, although various alpine valleys have evidence of engravings or paintings on rocks or within shelters or caves. Among these traditions similarities and differences in chronologies and themes have been outlined, however there are still many aspects that require further investigation. We welcome papers focusing on new discoveries of rock art sites, panels or figures; new interpretations of old data; new chronological proposals and perspectives; and the history of rock art research in the regions.

On the shoulders of giants - people and oral history in rock art

Mila Simões de Abreu, *Unidade de Arqueologia, Dep. Geologia Universidade de Trás-os-Montes e Alto Douro, CETRAD - Centro de Estudos transdisciplinares para o desenvolvimento, Portugal*; Pamela Jane Smith, *McDonald Institute for Archaeological Research, Oral History Project, University of Cambridge, Cambridge, UK*; Guillermo Munoz, *GIPRI - Grupo de Investigación de Arte Rupestre Indígena, Colombia*; Cristina Gastaldi, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy*

The intent of the congress is the recognition of many endeavours by many researchers and the pivotal pioneering studies they have advanced. Rock art, in all its different aspects, has evolved enormously since the first 'Valcamonica Symposium' held in Boario in 1968. In this session, we shall be willing to receive contributions on the history of research around the world and from different periods. The session will be divided in two parts: one with papers on diverse facets of the history of our discipline, the other dedicated to those who were the 'actors' in the studies. There will be a time to listen to several of our distinguished colleagues speaking of happenings in their own words.

Pastoral Graffiti. Old World case studies in interpretative ethnoarchaeology

Giovanni Kezich, *Museo degli Usi e Costumi della Gente Trentina, San Michele all'Adige, Trento, Italy*; Marta Bazzanella, *Museo degli Usi e Costumi della Gente Trentina, San Michele all'Adige, Trento, Italy*; Silvia Sandrone, *Musée des Merveilles, Tende, France*; Adriana Gandolfi, *Museo delle Genti d'Abruzzo, Pescara, Italy*

In a number of significant sites of the vast ancient pasturelands of the Old World, generations of wandering shepherds have left their testimony in the form of graffiti drafted on the rocks, sometimes in their tens of thousands, over a period of hundreds of years from ancient to modern times. The phenomenon is a conspicuous one, and has considerable significance, under a double perspective. On the one hand, the study of such pastoral graffiti may convey fresh ethnoarchaeological information as to the circumstances of the pastoral activities and the pastoral economy of the past. On the other hand, these signs,

which can be often fully alphabetic as well as drawing upon ancient symbolic repertoires, can be of some aid to the interpretation of rock art as a whole genre of human expression, and projected back, in their significance and their modes of appearance, the earliest times of prehistory. Starting from ground-breaking research on the shepherds' writings of the valley of Fiemme (Trentino, Italy cf. www.scritteideipastori.it), the session will aim at bringing together evidence from similar cases in other Eurasian settings, so as to further the specialists' acquaintance with this still largely unplundered terrain, in the general scientific perspective of the interpretation of rock art.

Pigments: from science to art

Ana Isabel Rodrigues, *IPMA-DivOA - Instituto Português do Mar e da Atmosfera, Divisão de Oceanografia Ambiental e Bioprospeção, Lisbon, Portugal*; José Mirão, *Laboratório Heracles, Universidade de Évora, Portugal*; Peter Vandenaabeele, *Vakgroep Archeologie, Universiteit Gent, Belgium*

Since the beginning of mankind there are records of the use of pigments. Therefore, the study of these materials can reveal continuously the relation of the societies with the environment or the technological skills of different groups. Their conservation is especially demanding. In rock art, the origin of the material used is very wide including organic preparations, plants extracts and mineral. But while trying to characterise the pigment itself, we cannot forget the binding agents, the possible diluents and the contaminants resulting from the production, the application processes and/or decomposition. In this section a non-limitative list of topics will be discussed, including: application of different techniques (e.g., FTIR, RAMAN, chromatography, SEM-EDS, XRF, XRD) in the material characterisation; study of degradation processes; recent advances in in-situ analysis; forensic applications in art and archaeology (e.g. forensic archaeology, authentications, procedures); studies about production, use, trade and provenance of the material; other topics.

Public policies and rock art, between research and preservation

Valerie Feruglio, *PACEA, UMR5199, Université de Bordeaux, France*; Nathalie Fourment, *Ministère de la Culture et de la Communication, France*; Jacques Jaubert, *PACEA, UMR5199, Université de Bordeaux, France*; Roberto Ontañón Peredo, *Museo de Prehistoria y Arqueología y Cuevas Prehistóricas de Cantabria, Gobierno de Cantabria, Spain*

Heritage of all, the rock art and parietal art must be preserved and studied at the same time. Research and preservation are closely linked. It is even the issue raised. So the research in its interdisciplinary dimension is an integral part of the processes of preservation today. To preserve without studying has not much sense and becomes even a high risk procedure. Sites, besides the depredations or vandalism are naturally all dedicated to disappear, only the term is variable. Besides, the requirements of preservation can also appear as so many challenges put in questionings, in methods and in means of the research. Which are the orientations and the position of the public policies to ally preservation and research? What public financial and human means, even private ones are devolved to this issues? What about the restitution of the results towards the public? We would like in this session to present various

international cases so much by the administrative frame as the scientist chosen and beyond the positioning on the policies of research how many researchers, what institutions, which ways, which actors of these stakes?

Recent research developments in rock art research in the Middle East, Caucasus and neighbouring areas

Angelo Eugenio Fossati, *Università Cattolica del Sacro Cuore, Milano*; *Cooperativa Archeologica 'Le orme dell'Uomo', Italy*; Dario Sigari, *Università degli Studi di Ferrara, Erasmus-Mundus International Doctorate, Ferrara, Italy*; Mohammed Maraqtan, *Center for Humanities and social Sciences, Qatar University, Doha, Qatar*

Within the extensive area stretching from Egypt to Iran (and the associated regions), rock art represents several traditions which exhibit remarkable chronological sequences spanning from the last phases of the Palaeolithic until the modern era. The body of associated rock art research in these regions is comparatively small and the number of ongoing projects are few. There is a clear need for diffusing the results of the ongoing research and our hope is that this session can stimulate discussion among scholars on the various themes emerging from such investigations (or analysis) and promote interest in future projects. Given this, we would like to invite scholars to present papers focusing on new discoveries, the investigation of the chronological sequences, the similarities of styles and of associated themes within this geographical area.

Recent rock art research in North America

Mavis Greer, *Greer Archeology, Casper, WY, USA*; James D. Keyser, *Oregon Archaeological Society, USA*; Jack Brink, *Royal Alberta Museum, Edmonton, Alberta, Canada*

Rock art in North America is the focus of a variety of projects ranging from locating and recording for purposes of expanding the database of known sites to in-depth analyses contributing to our understanding of the many past and present cultures of the United States and Canada. Presentations of different projects occurring in the region provide insights for an informed and inclusive understanding of regional cultures and provide comparable data for current directions in recording and preservation. The many aspects of rock art research in North America showcase the variety of work occurring on this site type and the progress being made in conservation, preservation, and interpretation.

Representations and symbolism of death in rock art

Larissa Mendoza Traffon, *Universidad Nacional Autónoma de México, Mexico*; Roberto Martínez González, *Leiden University, The Netherlands*

Funerary contexts as well as imagery of death are a rich source of information for researchers. They contain data related not only to ideas about a group's belief systems but also to their social relations, their connection to the land, and the role of the environment in culture. In rock art studies, motifs and contexts associated to the dead have often been approached in relation to ritual and religious aspects but, it seems to us, the other dimensions have not yet been sufficiently explored. For this reason, this session will aim at discussing the representations and symbolism

of death in rock art in relation to topics such as gender roles, social organisation, territoriality, mobility, and diet, among others. Connotations of death in rock art can be direct, as in literal depictions of mortality, or the co-presence of skeletal remains. But can also be more nuanced, for example in nearness to burial sites, or the portrayal of characters or scenes related to the hereafter. How should we interpret these differences? And, more importantly, what do rock art sites tell us about how people perceived and coped with death and its effects? In sum, rock art along with mortuary practices constitute an important part of the archaeological record that have often been underplayed, restricted to interpretations of ritual, but which hold a great potential for gaining access to all aspects of social organisation. We invite interdisciplinary participation of scholars interested in what rock art can help us infer about the position and impact of individuals in and beyond life and, at a more general level, the underlying institutions and principles that generate and support those roles.

Representations of weaponry and tools in prehistoric, protohistoric and traditional tribal communities: an approach by archaeology and anthropology

Ana M. S. Bettencourt, *Departamento de História, Lab2PT, Universidade de Minho, Braga, Portugal*; Hugo Aluai Sampaio, *Departamento de História, Lab2PT, Universidade de Minho, Braga, Portugal*; Manuel Santos-Estévez, *Fundação para a Ciência e a Tecnologia, Lab2.pt, Universidade do Minho, Braga, Portugal*; Zulfiqar Ali Kalhor, *Department of Development Studies, Pakistan Institute of Development, Islamabad, Pakistan*; Alessandra Bravin, *CNPR, Centro National du Patrimoine Rupestre, Direction du Patrimoine Culturel Ministère de la Culture, France*

Considering the subjective and metaphorical value of these motifs, the actions that materialised them, and their contexts, and also taking into account that such representations incorporate and transmit some kind of understanding about the world, this session pretends to discuss the representations of weapons and some kinds of tools (such as axes, sickles and a variety of guns in contemporary rock art traditions, for example) in different prehistoric, protohistoric and traditional communities' contexts all over the world. This includes an approach to rock art, stelae and statues-menhirs, gravestones portable art, ceramics, or any other kind of 'container' with this kind of depiction. The major concern is to discuss the meanings of these embodied signs (status symbols, evidences of cultural contacts, ideological devices, etc.) in different areas and periods, since meanings are permeable both to time and space. Subjects as they will be analysed as status symbols, as evidences of cultural contacts, as ideological devices etc. In this sense, communications and posters guided by different theoretical approaches focusing on these perspectives will be welcomed. The works could centre their attention in broader approaches based on a specific area, region or people, or focus particular case studies.

Rock art - reflections of a cultural heritage

Suely Amancio Martinelli, *Núcleo de Arqueologia, Universidade Federal do Sergipe, Laranjeiras, SE, Brazil*; Suely de Albuquerque, *Departamento de Letras e Ciências Humanas, Universidade Federal Rural de Pernambuco, Recife, PE, Brazil*; Carlos Xavier de Azevedo Netto, *Núcleo de Documentação e Informação Histórica Regional, Universidade Federal da Paraíba*

- *Campus I, João Pessoa, PA, Brazil*

The intent of this session is to present contribution considering the use of rock art as a cultural heritage, its preservation, current legislation and different ways of transmitting the importance of this legacy to communities, presenting the work of heritage education as disseminating acquired scientific knowledge, as a guide to awareness of the asset, social inclusion and historical citizenship, dealing with the understanding of concepts such as culture, memory, heritage and archaeology.

Rock art and ethnography

Claire Smith, *Department of Archaeology, Flinders University, Australia*; Sally K. May, *PERAHU - Place, Evolution and Rock Art Heritage Unit, Griffith University, QLH, Australia*; Ines Domingo, *ICREA, Humanities, Universitat de Barcelona (UB), Barcelona, Spain*

The value of ethnography for the interpretation of rock art has been a matter of debate for over 100 years. Ethnography is much more than the study of the present to understand the past. It is a tool to observe and analyse material culture in a living context. It allows us to observe daily interactions between humans and objects, as inert materials are transformed into active agents of social, economic and/or cultural practices. Done well, ethnographic studies can produce new understandings of rock art from the recent as well as the distant past. They can reveal the role of rock art as visual communication in a complex world of human interaction, demonstrate the archaeological invisibility of many aspects of human cultures and engender new theories for understanding territory, landscape, society, culture and rules of behaviour. Done poorly, ethnographic studies can produce suppositions that are simply waiting to be disproved, grounded in an elision of temporal and cultural distances between groups of people and denying the history and modernity of contemporary peoples. This session reflects on the use of ethnography to advance knowledge in the study of rock art. It addresses the question: what constitutes good ethnographic practice in rock art research in the 21st century? It builds on the ethnography symposium, convened by Mike Morwood at the first Australian Rock Art Research Association Congress, held in Darwin, Australia, in 1988. Participants in this session are invited to reflect on the capacity of ethnography to advance knowledge in the study of rock art, to consider the limitations of this form of analysis and the ethics of conducting ethnographic research with living peoples. We imagine that the session will be interdisciplinary as archaeologists, anthropologists, historians, linguists and cultural scholars can all bring valuable perspectives to the study of rock art and ethnography.

Rock art and human use of space in desert landscapes: a comparative perspective

Guadalupe Romero Villanueva, *Consejo Nacional de Investigaciones Científica y Técnicas (CONICET), Instituto Nacional de Antropología y Pensamiento Latinoamericano (INAPL), Argentina*; Zaray Guerrero Bueno, *Doctorado en Antropología, UTA-UCN, Universidad de Tarapacá*; Marcela Sepúlveda, *Instituto de Alta Investigación, Laboratorio de Análisis e Investigaciones Antropológica - Laboratorio de Arqueología y Paleambiente, Chile*

The aim of this session is to discuss the relationship be-

tween rock art and the ways in which space was used in desert environments. Worldwide, these ecosystems are characterised by a great internal heterogeneity regarding the distribution and availability of resources, and the conditions for the establishment of settlement and human circulation networks, among other aspects. Thus, here we seek to receive works that addresses rock art as an indicator to assess the mode and intensity of human occupation in arid and semi-arid regions from different continents.

We particularly welcome those presentations that emphasise the way in which the intrinsic ecological variability of these ecosystems affected the modes of organisation and behaviour of the human groups under study, evaluating the differential use of space within them, as well as the articulation and hierarchisation between sectors with diverse geographic and ecological characteristics through the execution of rock art motifs. Due to the increasing number of published papers that explore this issues during the last years, we consider that the development of these topics are essential for the archaeology of desert environments in general, and for rock art studies developed in these regions in particular.

Finally, with the set of presentations we hope that this session constitutes a space that stimulates a constructive discussion through the exchange of theoretical and methodological perspectives, conceptual tools and concrete research practices among colleagues working in desert regions from around the world.

Rock art and World Heritage

Sally K. May, *PERAHU - Place, Evolution and Rock Art Heritage Unit, Griffith University, QLH, Australia*; Jan Magne Gjerde, *Department, of History and Religious Studies. UiT - The Arctic University of Norway, Norway*; Paul S. C. Taçon, *PERAHU - Place, Evolution and Rock Art Heritage Unit, Griffith University, GLH, Australia*

The promotion of rock art landscapes into the UNESCO World Heritage system brings with it unique challenges and opportunities. While often used as part of broader World Heritage cultural place nominations, we have in more recent decades seen an increase in the nomination of places where rock art is the key cultural value. In this session we aim to critically explore the relationship between rock art and the World Heritage industry. Rather than focusing on the nature of the rock art found in World Heritage areas, we aim to explore the following: (a) the ways in which governments, local communities, ranger groups, and First Nation groups are managing rock art within broader World Heritage areas, (b) how World Heritage nomination and listing have or have not shifted relationships between stakeholder groups and rock art areas or associated cultural places, (c) how the act of World Heritage nomination and/or listing may have changed the cultural values for which the property was inscribed (or other cultural values not widely acknowledged), and (d) other critical reflections on rock art and World Heritage.

Rock art for bio-cultural diversity

Kalyan Kumar Chakravarty, *Lalit Kala, New Delhi, People's Council of Education, Allahabad, India*; Sarit Chaudhury, *Indira Gandhi Rashtriya Manav Sangrahalaya Bhopal, India*; Banshidhar Malla, *Indira Gandhi National Centre for the Arts, India, New Delhi, India*

Rock art is the only surviving evidence of the vanishing

material and mental traces of the cognitive beginnings of humanity. The traces are hidden in the fragile and endangered habitats of hinterland communities including forests and hills, cold and worm deserts, river banks and sea coasts. These habitats contain a rich diversity of natural and cultural heritage, nurtured and modified by human communities through thousands of years. This diversity is being destroyed by mega developmentalism, driven by a globalising, homogenising, technological society. Rock art, which has witnessed the synergistic growth of terrestrial biomes, is also being engulfed by this tide of extinction. A scientific, falsifiable study of the fast vanishing testimony of rock art has to be related to the material and cultural debris of ecologically isolated human communities and the bio geo chemical cycling and recycling in these biomes. This is the only plausible way for a meta-morphological resolution of probabilities about the shape and meaning of rock art and the mindscape and landscape surrounding it. A comparative study is necessary to evolve strategies for sustaining the bio-cultural diversity, of which rock art is an integral constituent.

Rock art in the Italian peninsula and islands: issues about the relation between engraved rocks, symbols, mountain areas and paths

Renata Grifoni Cremonesi, *Dipartimento di Scienze Archeologiche, Università di Pisa, Italy*; Anna Maria Tosatti, *Ex-Soprintendenza Archeologica della Toscana, Italy*; Anna Depalmas, *Università di Pisa, Italy*; Françoise Lorenzi, *Université de Corse, France*;

This session intends to resume the issues discussed during the round table *'L'arte rupestre dell'età dei metalli nella penisola italiana: localizzazione dei siti in rapporto al territorio, simbologie e possibilità interpretative'* that took place in Pisa in 2015. The addressed issues were related to the post-Pleistocene rock art along the Apennine ridge; in the last years more and more evidences have been identified, all characterised by a regional and peculiar iconography with some common elements: anthropomorphic figures, weapons, daggers, halberds and other several symbols, all stylised. A peculiarity of these evidences is their location in little shelters inappropriate for habitation or in places suitable for supervising mountain and territory roads; this situation reminds of the similar one of the western Mediterranean Sea. A new topic that has not been discussed during the round table is about the possible interpretations of some engravings as solar and stellar symbols related to the measuring of time and to economic, daily and seasonal factors. Therefore, the proposed guidelines are: a brief summary of the peninsular and insular situation; relation between sites and territory regarding natural and anthropic landscape; rock art and routes: cultural trades and supervision of the territory; probable meanings linked to solar and stellar cycles: symbols and interpretations.

Rock art in the landscapes of motion

Paweł Lech Polkowski, *Poznan Archaeological Museum, Poznan, Poland*

Heiko Riemer, *Institute of Prehistoric Archaeology, University of Cologne, Germany*

Frank Förster, *Ägyptisches Museum der Universität Bonn, Bonn, Germany*

During the last three decades of rock art research, the

contextual importance of landscape has been emphasised a number of times. It seems to be an axiom now that rock art should not be perceived as an isolated phenomenon but rather as a spatially embedded one. It is particularly a category of *place* which has become an interpretational tool for many scholars, allowing for considerations on rock art 'fixity'. The images, albeit often difficult to date, are 'fixed in place', therefore researchers may focus on this alleged stability and spatial relationships the rock art has with other landscape features and agents. However, one may argue that *place* is not as stable and fixed as it may seem at first glance. For instance, the *loci* are connected with paths and roads or actually form parts of these routes. A place then may constitute only a section of countless paths used by various agents. Features such as rock art, although immobile, belong not so much to a landscape of endurance and fixed relationships, as to a landscape of motion, full of ephemeral links and relations. We argue that to appreciate rock art in its landscape means also to appreciate the magnitude of agents active within it, and the overall dynamics they create. Motion affects rock art in a number of ways, from acting human agents to acting animals and weather phenomena. Hence rock art, apparently stable, is subjected to movements of those agents. One cannot approach rock drawings other than through movement, so if one side of a coin is a landscape of endurance, then the other side could be labelled a landscape of motion.

We invite papers in which rock art would be considered as an element of landscape of movement. Different approaches to rock art and landscape are welcomed as long as the relation of rock art and motion is interpreted. There is no geographical and chronological limit for case studies. We hope that a broad selection of approaches (e.g. functional, symbolic, relational) as well as various rock art traditions will help to show that rock art and movement are interrelated at manifold levels and in various scales. Some of the potential topics to be discussed throughout the session may be suggested:

A. Rock art and roads. On phenomena of producing/ encountering rock art while moving from place to place (e.g. pilgrimage, military or trade expeditions, search for resources).

B. In the living landscape. On agency of landscape and rock art (e.g. animism and rock art, rock art 'biographies').

C. Rock art in pastoral communities. Nomadic ways of life, transhumance and the potential roles of rock art production.

D. Movement of images. Large scale-movements of motifs (distributional analyses of rock art motifs/traditions).

E. Motion in rock art. Movement as depicted in rock art.

Rock art science

Robert G. Bednarik, *IFRAO Convener, Australian Rock Art Research Association, Australia*; Giriraj Kumar, *Rock Art Society of India, India*; Tang Huisheng, *The International Centre of Rock Art Dating and Conservation, Hebei Normal University, Shijiazhuang, China*

This symposium will follow the established format of the successful previous IFRAO Congress science symposia chaired by us that focused on the scientific methodology gradually becoming available to study rock art. We invite the submission of papers based on testable and refutable evidence and hypotheses cast in terms of cause and effect reasoning. Any topic concerning the science of both rock

art and portable palaeoart is welcomed, but the following subjects are suggested to be of particular interest:

1. The current proliferation of sophisticated rock art recording methodology.
2. Results and technical aspects of new studies in direct rock art age estimation.
3. The establishment of accepted standard protocols in rock art dating work.
4. New studies of the technology of rock art production.
5. Forensic studies of sites and replication of rock art phenomena.
6. New progress in the development of rock art conservation methodology.
7. New insights into the taphonomy and the significance of quantifiable variables of rock art.
8. The discrimination between natural and anthropogenic rock markings.
9. Any other topic about rock art or portable palaeoart that addresses testable propositions about these phenomena.

Rupestrian archaeology, questions & answers: tools, methods and purposes

Andrea Arcà, *Coop. 'Le Orme dell'Uomo' & Università di Pisa, Dipartimento di Scienze dell'Antichità e Archeologia, Italy*; Yang Cai, *CYLAB – Visual Intelligence Studio, Carnegie Mellon University, USA*; Paolo Medici, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy. Freie Universitaet, Fachbereich Geschichts- und Kulturwissenschaften, Berlin, Germany*; Giulia Rossi, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy*; Manuel Santos-Estévez, *Fundação para a Ciência e a Tecnologia, Lab2.pt, Universidade do Minho, Braga, Portugal*

This session is meant to analyse in depth the issues related to the relationships among methods, techniques of analysis and goals of the archaeological research applied to the rock art studies. The technological innovation of the last thirty years has favoured the development of new methods in support of the historical and archaeological studies; the approach to these disciplines has been often changed, broadening horizons and opening new ones. Among the others fields, we may focus on innovations based on computer sciences — both hardware and software — mathematics, optics, physics, mechanics and network communication. The need to find other research tools beyond the traditional ones is the core of many of the most recent contributions, which significantly boosted the development of new documentation methods and of archaeological data representation. At the same time, the so-called 'traditional' recording methods, to collect and analyse data on an archaeological basis, have greatly refined their strategies, confirming the centrality of their role and taking advantage of the many opportunities offered by a continuous technical and computer-based upgrade. Once we have collected, therefore, the outcomes of such a research phase, both innovative and experimental, it is time to reopen the debate to face the core issues with a new overlook, in the light not only of the new perspectives and analytical paths, but also of the research history, which is always appropriate to consider. Rock art studies offer us, today, the opportunity to evaluate in depth how the plurality of recording methods influenced the research goals and its results. So, this session will give space to communications, whether presenting the new methods development or addressing the integration, or re-reading,

of the traditional ones. Similarly, it will host contributions related to the impact for the different research approaches produced by various recording and communication tools. A look at the future, meant as a planning able to treasure the continuous upgrade of its tools and the awareness of its own history.

Rupestrian expressions in historical periods

Federico Troletti, *Centro Camuno di Studi Preistorici, Capo di Ponte, Italy*; Philippe Hameau, *LAPCOS, Laboratoire d'Anthropologie et de Psychologie Cognitives et Sociales, Université de Nice Sophia-Antipolis, Nice, France*

In the past few decades, researchers from different disciplines (archaeology, history of art, palaeography, semiotics, and archival science) have been concerned with the determination, identification and analysis of graphic expressions dating to our era — engraved and painted imagery found in rockshelters and caves, on single rocks or clusters of rocks in the open-air, as well as on walls of churches and other buildings. These finds reveal diverse, secular or religious practices and allow us to recall aspects that are sometimes marginalised or little known by local communities. Studies published so far are still rare and often limited to a few sites or simple themes. The aim of this session is to create a dialogue between different disciplines about documentation and inquiry methodologies, present new sites and disclose their iconographic potential, and devise approaches to the social, economic and historical contexts tied to these vestiges — sets of expressions that go beyond the surrounds of the sites, used and traversed by individuals eager to leave traces of their passage in specific places. The session will also deal with the evolution of signs that change little in shape throughout the historical epoch, but diversify in terms of their semantic content. It will further probe the consistency and recurrence of the iconography corpus, despite cultural and contextual diversities. Finally, the gathering will contemplate heritage classification projects for these graphic expressions.

Recurrent themes in world rock art

Michel Jusmand, *Unidade Acadêmica de Benjamin Constant, Universidade Federal da Amazonia, Brazil*; Pedro Paulo Furnari, *Instituto de Filosofia e Ciências Humanas. Departamento de História. IFCH, Universidade Estadual de Campinas, Brazil*

Rock art shows thematic similarities around the world. We would like to invite scholars to propose papers to discuss, analyse and express recurrent themes in world rock art, regardless of traditions, chronologies, techniques, visibility and public accessibility.

Sex, drugs and rock & roll

Mila Simões de Abreu, *Unidade de Arqueologia, Dep. Geologia Universidade de Trás-os-Montes e Alto Douro, CETRAD – Centro de Estudos transdisciplinares para o desenvolvimento, Portugal*; Cristiane Buco, *IPHAN - Instituto do Patrimônio Histórico e Artístico Nacional, Fortaleza, Fundação Museu do Homem Americano, Brazil*

In this session we are willing to accept reports and studies on new discoveries, new visions and new ideas in each of the different subjects or any possible combination. Sex: sexual scenes, ithaphalic images, phalluses and vulvas, single or in groups, in all the areas of the world and among any culture and chronology.

Drugs: the use, evidence or other kind of connection between hallucinogenic substances and the production of rock art with or without shamanistic performance. We are particularly interested in studies related to what plants were used and how.

Rock & roll: papers on musical representation, musical instruments, dances and related studies.

Shared traditions and cultural diversity in the prehistoric Mediterranean rock art

Maria Giuseppina Gradoli, *School of Archaeology and Ancient History, University of Leicester, UK; COMET - valorizzazione Risorce Territoriali, Cagliari, Italy*; Guillaume Robin, *School of History, Classics and Archaeology, University of Edinburgh*; Claudia Defrasne, *LabexMed, LaPMPEA, Laboratoire Méditerranéen de Préhistoire Europe Afrique, Aix-Marseille Université*.

From the Palaeolithic to Late Prehistory, the Mediterranean region represented a complex interconnected space for interactions and long-distance movement of people and products, in which a great deal of different minor, and yet still important rock art traditions, developed. These sites, often far apart from each other, have received less international attention than the most famous Spanish Levant, the French/Italian Mount Bego, or the Valcamonica area in the Alps. This session aims at bringing together rock art specialists from all these various Mediterranean countries, providing the opportunity to highlight affinities and diversities in the archaeological and landscape context of their prehistoric caves, rock shelters, open-air outcrops and monuments. Discussions will focus on the diverse trends reflected in the distribution, style and chronology of rock art traditions across the whole Mediterranean, and on multidisciplinary approaches in their recording and interpretation. Papers focusing on regional overviews or on recent fieldwork are welcome, especially new contributions on the presence of prehistoric rock art in the central and eastern Mediterranean, north Africa, and on the islands.

Statue-stele in Europe, Asia and the Mediterranean basin

Stefania Casini, *Civico Museo Archeologico di Bergamo, Bergamo, Italy*; Angelo Eugenio Fossati, *Università Cattolica del Sacro Cuore, Milano*; *Cooperativa Archeologica 'Le orme dell'Uomo, Italy*; Marta Diaz-Guardamino, *School of History, Archaeology and Religion, Cardiff University*

The presence of statue-stele, decorated menhirs and engraved boulders, connected to the Atlantic megalithic tradition, encompass, from at least the 4th-3rd millennia BCE, extensive territories within Europe, Asia and the Mediterranean. Elements of comparison can be drawn from the similarities in the execution, form and chronology of these monoliths. This session will welcome papers regarding: the research on the primary and secondary contexts of the finds; the methods of production of these monuments and how they have been decorated (by etching, engraving or painting); the proposed dating of their

manufacture and/or later re-carving; the iconographic features (weapons, clothing items, ornaments, animals, etc.) and their proposed interpretations and functions. The duration of this phenomenon, in several regions, lasted for longer, encompassing periods leading up to, and including, historical times. The papers may also focus on the areas where this tradition has spanned for a longer period of time and will analyse this continuity. Within this continuity evident changes in the execution, techniques and context can be highlighted and changes of an iconographic and/or ideological nature can be identified.

Stylistic groups and social portrait at the dawn of complex societies

Luis C. Teira Mayolini, *Instituto Internacional Prehistóricas de Cantabria, Universidad de Cantabria, Spain*; Roberto Ontañón Peredo, *Museo de Prehistoria y Arqueología de Cantabria, Spain*; Marta Diaz-Guardamino, *School of History, Archaeology and Religion, Cardiff University*; Pablo Arias Cabal, *Instituto Internacional de Investigaciones Prehistóricas de Cantabria, Universidad de Cantabria, Spain*

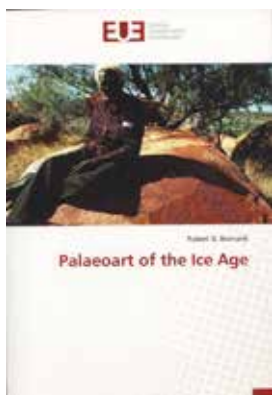
Post-Palaeolithic graphic expression, beyond its formal definition, must be understood as a codified narrative. Its geometric character, the repetition of icons, the distribution of these in the narrative space, have the purpose of communicating within the human group. Therefore, the relations of size, the nature of the attributes, or the choice of the frame, are primordial structures of a language that, from these antecedents, we will see to develop in multiple cultural contexts throughout History. So to speak, we attend to the babblings in pre-History of the social portrait. In our session we intend to reflect on the graphic codes used by the representation of the human figure in post-Palaeolithic moments. What are the basic elements that define its semiotics? How are they distributed in the design? Can we observe different traditions of 'style' from, however, a common set of significant elements (weapons, clothing, anatomical characters)? What do these representations of intra-group relations tell us? These are the arguments for our working session. We invite researchers interested in any aspect of prehistoric human representation, understood as a social portrait, to share and discuss with us their reflections.

'Things' in rock art of the world

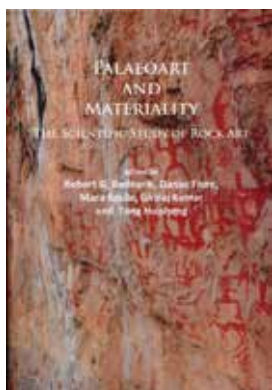
Mila Simões de Abreu, *Unidade de Arqueologia, Dep. Geologia Universidade de Trás-os-Montes e Alto Douro, CETRAD – Centro de Estudos transdisciplinares para o desenvolvimento, Portugal*; Luis Jorge Gonçalves, *Cieba, Centro de investigação e de estudos em belas-artes, Universidade de Lisbon, Portugal*; Angelo Eugenio Fossati, *Università Cattolica del Sacro Cuore, Milano*; *Cooperativa Archeologica 'Le orme dell'Uomo, Italy*
All over the world, among millions of paintings and engravings, there are representations of objects or 'things'. This session invites contributions about images that look like bags, baskets, vessels, pots, jewellery, musical instruments, clothes, hairstyles, footwear (footprints), tattoos and other items or decorations.

New books available from AURA, at reduced prices

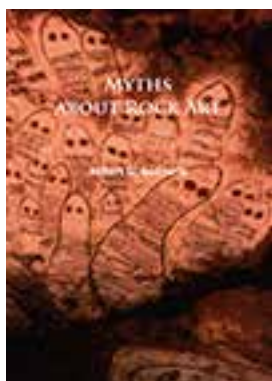
AURA purchases selected titles in bulk and then passes the savings on to members, selling these volumes at cost price.



2017: **Palaeoart of the Ice Age**, by R. G. Bednarik. Éditions Universitaires Européennes. This volume is the first comprehensive review of the Pleistocene rock art and portable palaeoart of six continents. Illustrated with colour and monochrome images, bibliography, softcover, ISBN 978-3-639-56008-4. Listed price €50.92, price for AURA members \$A55.00, including postage within Australia; \$A80.00 elsewhere.

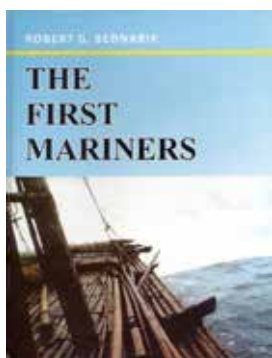


2016: **Palaeoart and materiality: the scientific study of rock art**, edited by Robert G. Bednarik, Danae Fiore, Mara Basile, Giriraj Kumar and Tang Huisheng. Archaeopress Publishing Ltd., Oxford. The proceedings of two IFRAO Congress symposia (La Paz and Cáceres), 19 chapters, 45 authors, 254 pages, mostly monochrome illustrations, some in colour, with contributions by 45 authors, bibliographies, index, softcover, ISBN 978-1-78491-429-5. Listed price £40.00, price for AURA members \$A46.00, including postage in Australia; \$A64.00 elsewhere.



2016: **Myths about rock art**, by R. G. Bednarik. Archaeopress Publishing Ltd, Oxford. Softcover, 220 pages, 62 colour and monochrome plates. ISBN 978-1-78491-474-5. Listed price £30.00, price for AURA members \$A39.50, including postage in Australia; \$A57.00 elsewhere.

Rather than considering the myths supposedly depicted in the world's rock art, this book examines the myths archaeologists and others have created about the meanings and significance of rock art. This vast body of opinions dominates our concepts of the principal surviving cultural manifestations of early worldviews. Here these constructs are subjected to detailed analysis and are found to consist largely of misinterpretations.



2014: **The first mariners**, by R. G. Bednarik. Research India Press, New Delhi, 335 pages, 190 mostly colour plates, hardcover, ISSN 978-93-5171-007-3 (1st edition; 3 editions published). Listed price US\$150.00 (c. \$A200.00). AURA has acquired a number of copies at cost price and is making these available to members at \$A40.00 each (80% discount), plus postage for 1.8 kg weight (depending on destination).

This volume summarises the history and findings of the First Mariners Project, which the author commenced in 1996 and which is engaged in exploring the Ice Age origins of seafaring. The book contains a detailed discussion of early palaeoart.