BRIEF REPORTS

Drawing a line in the sand

CHARLES W. HELM, HAYLEY C. CAWTHRA, JAN C. DE VYNCK, CARINA J. Z. HELM, RENÉE RUST and WILLO STEAR

Humans on beaches and dunes today love creating patterns in the sand or sculptures (e.g. sandcastles). Such activity has clearly been enjoyed by humans for many generations. Humans foraging for seafood on beaches or for underground food on dunes may also leave traces in the sand of their activities. Until now, however, evidence has been lacking to indicate how far back in human history these activities may have occurred.

Morriss-Kay (2009), discussing palaeoart, lamented that we 'simply cannot know how much art was created in perishable materials and has therefore been lost to the archaeological record'. In terms of its ability to preserve patterns made in it, sand has been viewed as being in the 'perishable materials' category. Discussion of ancient art is inevitably biased towards materials that endure over time: for taphonomic reasons images created in stone tend to persist longer than those made in bone or shell, which persist longer than those carved in wood (Bednarik 1994). It is therefore conceivable that proto-art might be commoner in early human history than is apparent through the evidence that has been reported. Based on our findings on the Cape south coast of South Africa, recently published in *Proceedings of the Geologists' Association* (Helm et al. 2019a), we submit that the medium of sand is not 'perishable', and that it should be added to the list of enduring items that have the capacity to record and preserve ancient human expression.

Southern Africa boasts an extensive record of palaeoart (Bednarik 2013), and the Cape south coast of South Africa contains one of the richest Middle Stone Age archaeological records in the world (e.g. Wurz et al. 2018), with multiple examples of the emergence of modern human behaviour. These include adornment through the use of ochre (Marean et al. 2007; Henshilwood et al. 2011), the use of jewellery (d'Errico et al. 2005; Henshilwood et al. 2011), heat treatment of stone tools (Brown et al. 2009) and microlithic technology (Brown et al. 2012). Furthermore, 'hashtag' (chevron) patterns in ochre have been reported from the Cape south coast from Pinnacle Point, dated to 100 ka (Watts 2010) and Blombos Cave, dated to 77 ka (Henshilwood et al. 2002). Henshilwood et al. (2018) described a similar pattern at Blombos Cave in a rock painting dated to 73 ka. This area may have been critical to the survival of the human species during Marine Isotope Stage 6 (Marean 2010a, 2010b).

Fortuitously, this coastline is now comprised of extensive outcrops of aeolianites and beach rock, the cemented remains of the dune and beach surfaces on which our distant ancestors and many other vertebrates lived and moved. These have been dated through optically stimulated luminescence to an outer range of 158–70 ka (Bateman et al. 2011; Roberts et al. 2008), i.e. to within the Middle-Late Pleistocene epoch or the Middle Stone Age. Far from being ephemeral, and destined to be obliterated by the effects of the next wind storm or tide, the tracks and traces found on these rocks are often preserved and can be identified when they are exposed through cliff collapse or other forms of erosion. Indeed, we have identified over 140 vertebrate track sites in these rocks along a 350 km stretch of coastline (Helm et al. 2019b). In 2016 members of our research team identified an unequivocal human track site containing forty footprints, for which we estimated an age of ~90 ka, made by a group of humans travelling down a dune surface (Helm et al. 2018).

Given, then, that (a) humans moved over these surfaces, (b) these surfaces may now exhibit in often exquisite detail the events that transpired on them, and (c) humans in this region produced palaeoart during this time period, we asked ourselves the following questions:

1) In addition to recording the fossil footprints of ancient humans, could those ancient dune and beach surfaces have recorded other evidence of human activity, such as patterns, symbols, sculptures, or evidence of foraging?
2) If so, have these ancient canvases of sand left evidence of these activities that can be interpreted today?
3) Could such evidence form a previously undocumented form of Middle Stone Age hominin expression and activity?

The answer to all three questions appears to be 'yes'.

In our published paper we presented our interpretation of possible anthropogenic patterns made in the

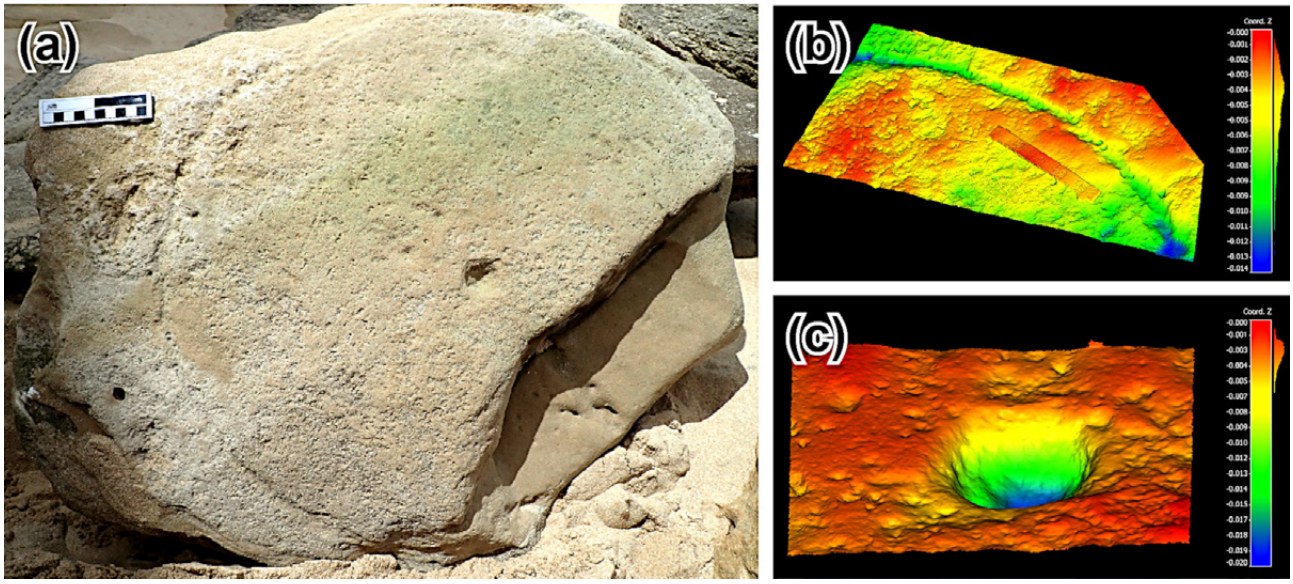

Figure 1. *(a) Circular feature with a central depression; a putative knee impression is evident below the 10 cm scale bar. (b) Photogrammetry colour mesh tilt view of a portion of the circular groove, showing a slight discontinuity that might represent the 'start-finish' area; vertical scale is in metres. (c) Photogrammetry colour mesh tilt view of the central depression; vertical scale is in metres.*

sand at eight sites along the Cape south coast (two in Garden Route National Park, five in Goukamma Nature Reserve and one east of Still Bay). In selected cases we performed photogrammetric analysis (Matthews et al. 2016). 3D models were generated with Agisoft MetaShape Professional (v. 1.5.2) using an Olympus TG-5 camera (focal length 4.5 mm; resolution 4000 × 3000; pixel size 1.56 × 1.56 µm). The final images were rendered using CloudCompare (v.2.10-beta).

One site comprised a near-perfect circle with a central depression (Fig. 1) beside a pair of oval features that may represent knee impressions (these would be the first reported knee impressions in the ichnology record). If this circle was generated by a human, then a straightforward mechanism could have involved the use of a forked stick (Fig. 2).

Another site featured eight subparallel grooves clustered around what appears to be a partial human forefoot impression with digit impressions (Fig. 3). One of these grooves appeared to show evidence of deliberate lengthening.

A further site featured two parallel trackways of possible human origin, with a groove feature with similar orientation beside each of them (Fig. 4). An equid origin for the trackways (with over-stepping) could not be excluded, but this would not explain the presence of the enigmatically aligned grooves.

One radial pattern was associated with a double groove (Fig. 5), flanked on each side by a prominent rim. This combination resembled patterns of San petroglyphs in the Northern Cape Province of South Africa, thought to represent solar or celestial images (Sullivan 2001: 208; Ouzman 2010). One explanation,

Figure 2. *One way in which the circular feature in Figure 1 can be replicated while kneeling in sand is through the use of a forked stick (photo credit Linda Helm).*

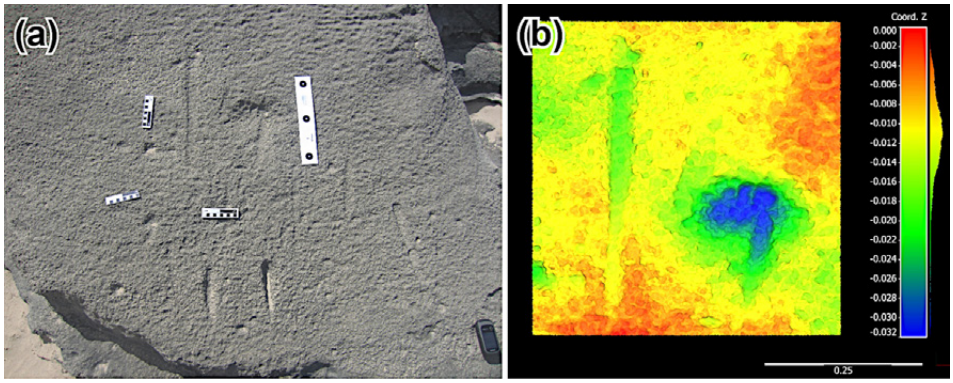

Figure 3. *(a) Multiple groove features clustered around a possible human footprint; scale bars 25 cm and 10 cm; the right lower groove shows possible evidence of deliberate lengthening. (b) Photogrammetry colour mesh of the possible partial human footprint, showing possible digits, spatially associated with groove features; scale in metres.*

which can easily be re-created in moist sand, is that it was drawn by an index and middle finger in contact with each other (with the median ridge between the grooves explained in this scenario by the gap between the ends of the digits).

A 'hashtag' pattern (Fig. 6) was of special interest, as it bore a resemblance to the known examples of palaeoart in the region. In addition, we reported on two possible animal images (one of which may conceivably have been of the extinct long-horned buffalo, the other conceivably a sculpture of a stingray), and possible trace fossil evidence of foraging. We proposed a new term to describe patterns created in sand that lithify over time: ammoglyph ('ammos' being Greek for 'sand', and 'glyph' being Greek for a carving, image or symbol).

Figure 4. *Two parallel trackways of possible human origin, with a groove feature with similar orientation beside each of them; scale bar in cm.*

One of our challenges lay in the presence of the multitude of lines, grooves, patterns and shapes on these rock surfaces. While a 'hashtag' pattern etched into a stone in Blombos Cave or Wonderwerk Cave provides unassailable evidence of its human origin, in the case of intersecting lines and patterns on these aeolianite and beach-rock surfaces, we had to determine whether a hominin 'signature' could reasonably be inferred among this plethora of patterns. We, therefore, considered other possible agents that may have caused such patterns: wind, water, fossil roots and branches, leaf frond traces, and traces made by invertebrates, reptiles, birds and other mammals. Parallel lines, nested curved lines (the 'rainbow pattern') and radial patterns, which might intuitively suggest an anthropic origin, in fact, had other possible causes and were, therefore, less likely markers of a hominin signature unless they contained associated suggestive features. The perils of over-interpretation became evident at one site, where a combination of evenly spaced parallel grooves and a variety of 'rainbow patterns' initially hinted at a possible hominin origin. Closer analysis, however, suggested that this was the first known record of a seal track site, and we will be reporting on this elsewhere. In some cases, we simply noted equivocal features that suggested a possible human origin, while noting that other origins could not be excluded.

Figure 5. *A double groove feature flanked on each side by a prominent rim, and with a median ridge, spatially associated with a radial pattern (outside the frame of this photograph); scale bar = 10 cm.*

Even symmetrical patterns were not necessarily significant unless there were multiple elements of symmetry. In the case of the possible stingray sculpture, for example, the rock had a symmetrical shape, and there were multiple examples of symmetry on its surface, aligned with the long axis of symmetry of the rock. The only irregularity in the outline of the rock was a 'bite' where the putative tail might have broken off at some stage in the rock's history. The most plausible alternative explanation was simply that there are so many rock surfaces on this coastline that sooner or later one will be observed that uncannily resembles an animal image, one that happens to have multiple symmetries seemingly inscribed on its surface.

Figure 6. *A 'hashtag' (chevron) pattern that bore a resemblance to reported examples of palaeoart in the region; scale = 10 cm.*

We also considered how to distinguish between ancient patterns made in sand and more recent patterns of graffiti

engraved in rock. One such tool involves rims: if an elevated rim is present on either side of a groove, this is a useful indicator that the groove was made in sand, whereas a rim is hard to explain if the groove was incised in rock. However, rims are easily eroded, and their absence, therefore, does not imply a recent origin.

We, therefore, adopted a cautious approach throughout, being aware of the potential for confirmation bias. Even in the seemingly compelling case of the circular groove and central depression, an alternative explanation presented itself of a central root with a single frond blowing in the wind and touching the sand, thereby creating a circular feature. There were reasons why we considered this unlikely or impossible, such as the depth of the groove when seen in cross-section (which implied the presence of a more substantial force) and the absence of any central rhizolith. And the presence of rims seemed to exclude a recent origin. Proximity to other sites of possible anthropic origin provided 'circumstantial evidence', and we considered it significant that two rocks with possible evidence of foraging behaviour occurred within a couple of metres of the rock containing the circle feature. Nonetheless, we acknowledged that absolute certainty was elusive.

Samples have been taken for dating adjacent to a number of the sites we described. These will place these rocks in a more secure geochronological context. We have been able to recover four portable specimens, which are deposited at the Blombos Museum of Archaeology in Still Bay, and are available for examination and interpretation by researchers. Locality data is available to *bona fide* researchers through the African Centre for Coastal Palaeoscience at Nelson Mandela University, Port Elizabeth. Non-invasive imaging is planned for the rocks with possible evidence of foraging behaviour, to help confirm or refute this notion.

If some of our interpretations are accurate, then this evidence can buttress other avenues of research that attest to the cognitive abilities of early humans in this region. In conclusion, being able to recognise that some ancient sand surfaces have preserved an extraordinary record of what transpired on them, including the potential of palaeoart, allows for the investigation and interpretation of a hitherto under-appreciated form of ancient human expression. Given the paucity of media that endure over time to allow interpretation of palaeoart, the addition of the notion of a canvas of sand is significant. The resulting search for ammoglyphs on the southern African coastline, or elsewhere in the world where humans have interacted with sand, has the potential to become a new field of study, at a meeting point between the study of palaeoart and the disciplines of archaeology, ichnology, palaeoanthropology, pattern recognition and sedimentology.

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RAR 37-1321

Preliminary report of newly rediscovered rock art site Damirgaya, southern Georgia

By LEVAN LOSABERIDZE
and MARIAM ELOSHVILI

The history of rock art research in Georgia has not been long and intensive, although the first attempts of recording rock art sites began quite early. The Trialeti petroglyphs were initially discovered in the 1880s, lost and rediscovered in the 1970s. Besides this commonly known rock art site in Georgia, discoveries and research of rock art since then have been very fragmentary (Gabunia and Vekua 1980; Sagona 2018: 80–83).

Damirgaya had a similar history of discovery, initially located by Tamaz Kiguradze who was excavating the Late Neolithic settlement Khramis Didi Gora in 1980s and conducted a small-scale survey in the surrounding area. Despite the published report in 1986, where Damirgaya is mentioned very briefly, this important discovery remained unattended for decades (Menabde and Kiguradze 1986). Only in 2017, while reviewing the literature, we came across this reference that casually mentions the find of pre-Historic rock art near the village Kasumlo in the municipality of Marneuli, southern Georgia. It became clear that local archaeologists did not know this site. As a result, three scholars from the Society of Young Archaeologists and Georgian National Museum (Tamar Aghapishvili and the authors) decided to attempt relocating this site. With the aid of the municipality of Marneuli and the border police of Georgia, the expedition succeeded in rediscovering the site. The help of these government institutions was necessary due to the proximity of the site to the state border with Armenia.

Figure 1. *Location of Damirgaya Rockshelter.*

Description of the site

Damirgaya is located in southern Georgia, in the northern foothills of the Lesser Caucasus, at an altitude of 687 m a.s.l. (Fig. 1). The region has been partially settled by ethnic Azerbaijani population from

Figure 2. General view of the site.

Figure 3. Damirgaya Rockshelter.

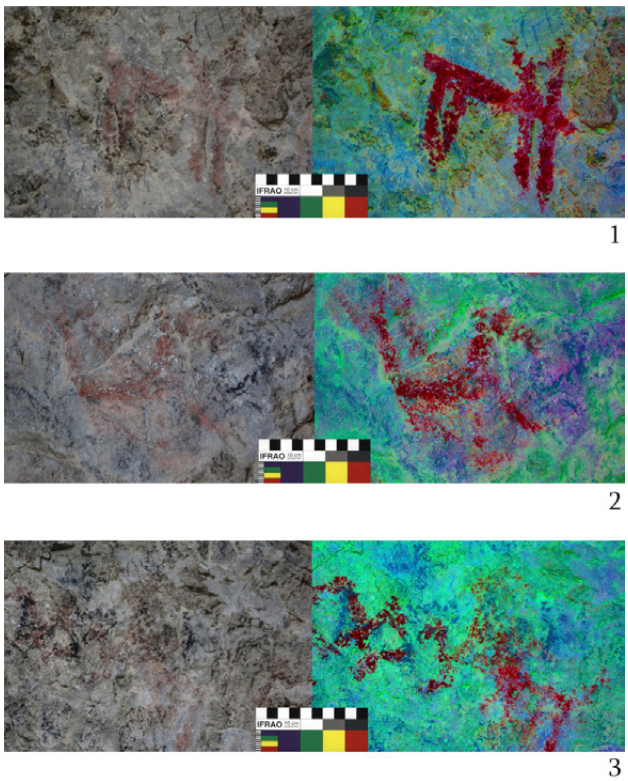

Figure 4. Zoomorphic figures: original photographs and digitally enhanced versions.

late medieval times, so toponyms in Azeri language here are quite common such as the name of the area where the site locates and which means 'iron rock'. This description comes from the volcanic origin of this place where the top of the mountain is an igneous stratum. Tens of boulders seem to be detached from the top and became dispersed (Fig. 2). On account of natural processes, a rock shelter formed in one of these boulders, with dimensions of 5.5 × 7.3 m (height, width) for entire rock and 3.6 × 5.5 m for the interior, hollowed part. The rockshelter is open towards the north (Fig. 3), with the rock art located on the central and western parts of the inner wall and spread over about 3–3.5 m. The images are all between 10–20 cm, executed with what seems to be reddish ochre. Based on their forms, we divided the twenty motifs into three groups:

(1) Geometric figures, represented as rhomboid shapes and zigzag patterns.
(2) Zoomorphic figures, represented as deer-like figures and two other animal-like paintings (Fig. 4).
(3) Indeterminate figures form the largest group due to extensive damage (Fig. 5).

Protection

After the discovery of the site, we took steps for the protection of this site, namely, integration into the Cultural Heritage GIS Portal and submission of the relevant information to the National Agency for Cultural Heritage Preservation of Georgia (NACHPG), to determine site boundaries and provide protection status to Damirgaya. This process is completed successfully; however, the site remains in a poor state. As such, beyond bureaucratic status, the site also requires an appropriate conservation plan. Therefore, we are in the process of devising a conservation plan meant to preserve the paintings. Two basic factors damage the site — artificial and natural:

- The artificial factor means that, apparently, local shepherds have used this rockshelter in modern times and have written their names onto the paintings with charcoal (Fig. 6).
- Although these paintings are well sheltered, natural damage is still severe. It seems that climate impacts on the pigments.

To promote the protection of Damirgaya, very

preliminary reports were published (Losaberidze 2019a, 2019b) and presentations were given at conferences, especially after presenting the results of digital image enhancement (thanks to the support of Claudia Defrasne, Aix-Marseille University).

Discussion

The preliminary results show that this rockshelter was situated on a very important passageway for foragers and herders. The ridge where the site is located today forms the border between two countries, Georgia and Armenia. It seems that this area was no less important for pre-Historic people, possibly shepherds who used to stay there with cattle, sheep or goats. What is significant is that modern-day shepherds still use this shelter for resting while their cattle graze (Brady et al. 2017). They pass their time by adding graffiti, damaging the authentic rock art. On the one hand, it is an interesting phenomenon that herders thousands of years apart carry out the same activity in the same areas and have similar beliefs to perpetuate something important on the walls. On the other hand, we have a unique rock art site that has been quite damaged as a result.

Regarding the chronology of Damirgaya, it is hard to date the site, especially without using absolute dating methods. One of the main goals for archaeological research in 2020 at this site is to excavate the surrounding area of the shelter and determine if some materials were used by the people who frequented the site. The interior of the shelter is not massive but seems it would have allowed for possible activities to take place, so we believe that some materials might be found there. Tamaz Kiguradze, the archaeologist who found Damirgaya in the 1980s, suggested the rock art to date broadly from the Neolithic to Early Bronze Age (Menabde and Kiguradze 1986), but there is no discussion in the report on what this chronology was based.

Similarly stylised zoomorphs, especially cerviforms, were drawn with reddish ochre in Geghamavan-1 Cave. Khechoyan and Gasparyan (2014) considered them to belong to the Late Neolithic period, but again without evidence.

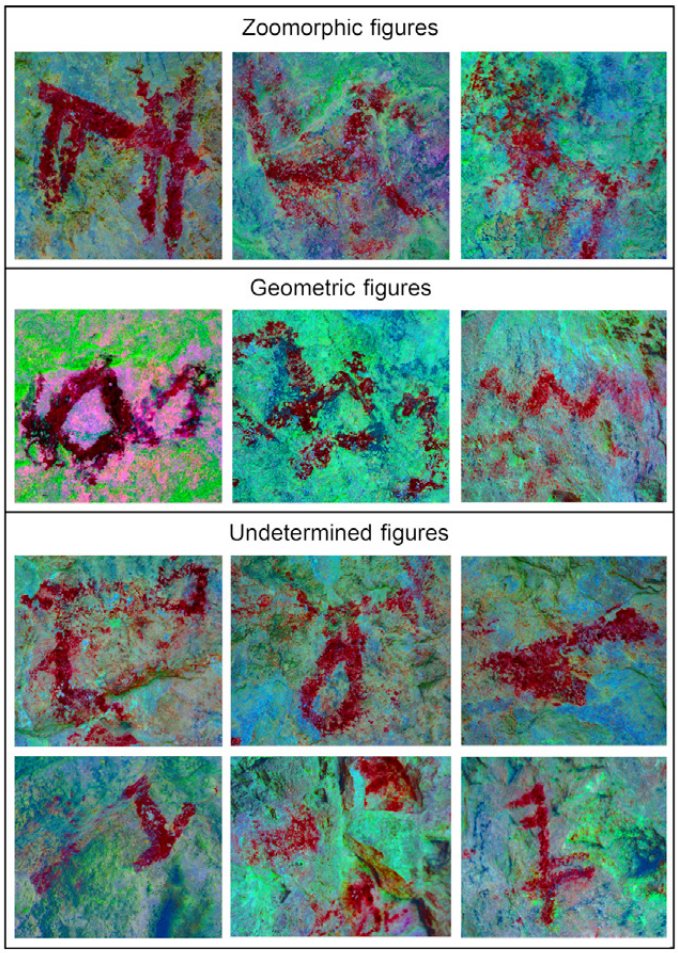

Figure 5. *Classification of the figures.*

Figure 6. *Modern artificial damage with charcoal (digitally enhanced).*

Conclusion

Preliminary research revealed a rock art site that was first reported about 40 years ago but not closely examined until 2017. The current research will seek to clarify weathering processes of the rock, shelter formation and potential ochre sources. Attempting to determine the age of the rock art will be one of the most important parts of the research.

Certainly, Damirgaya has great potential for research due to the extremely low number of rock art sites in Georgia. Future work will represent pioneering research due to the lack of information on the cultural attribution of this site, the role of this shelter for the people who used it, and the interpretation of the paintings.

Rediscovery and presented steps are done for the study of this site is still an initial stage. We believe that a large-scale survey of eastern Georgia will allow us to find more rock art sites.

Acknowledgements

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government to define the localisation of the cited toponym, permission from the border police to access the site, transport support etc. Our special thanks to Dr Claudia Defrasne for her great support with DStrech software; to Dr Khaled Abu Jayyab for editing the manuscript; to Giorgi Kirkitadze and Mikheil Lobjanidze of Ilia State University for mapping; and to our team member Tamar Aghapishvili for participating in rediscovery and documentation work.

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RAR 37-1322

Antiquity of Iran's rock art: pre-History or Historic-Islamic time?

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Introduction

In Iran rock are sites extend from the south, close to the Persian and Oman Gulf shoreline, up to mountainous areas of north-western Iran bordering with Azerbaijan and Armenia. Compared with neighbouring countries, the history of rock art studies in Iran has been short. Such studies extend to 60 years ago when an Italian geological team reported some petroglyphs in Iranian Baluchistan (Deassau 1960). For a long time, information concerning rock art in Iran remained confined to this work and a few other sites like the Mirmalas and Ducheh paintings in the west (Izadpanah 1969; McBurney 1969). But as a result of recent studies, the number of identified sites is now beyond sixty, ranging from small sites like Qale Bozi with twelve motifs to sites like Timreh comprising around 30 000 motifs (Fig. 1).

Despite this wealth of rock art, is not accepted as part of the archaeological discipline in Iran. A main reason for such rejection relates to the chronology of rock art. Without identifying the age of rock art, this evidence is of no help to the archaeologist, because it can be linked to archaeological constructs only by the factor of age (Bednarik 2002). None of the methods of direct dating have been applied to Iranian rock art, and traditional methods resulted in relative age estimates only. Nevertheless, some Iranian rock art has special characteristics that help determine its approximate age. Some rock art has been applied over Historical bas relief and architectural elements. Among those motifs are two distinctive geometric patterns found in many other sites also. The superimposition of this 'geometric' rock art over Historical monuments limits their antiquity to the Historic and Islamic periods. The archaeology of Iran is divided into three general periods: the pre-Historic era (Palaeolithic period to the Mad-Achaemenid empires 850–330 BCE; note that in the Khuzistan region in south-western Iran the Historic period begins at the end of the 4th millennium BCE, as in southern Mesopotamia). The Historic period of Iran begins 850 BCE with the Mad-Achaemenid period and continues with the two well-known empires of the Parthian (247 BCE–224 CE) and Sasanian (224–631 CE), ending with the start of the Islamic period in 631 CE.

Secondly, the topic of many rock art sites in Iran seems related to horse riding and purported hunting scenes. Horse riding is absent in the pre-Historic periods but is commonly found in the Historic and Islamic periods (Mohammadi Ghasrian 2017). The present paper attempts to identify rock art sites containing those mentioned geometric motifs and rock art containing 'horse rider' depictions to estimate the proportion of Historic and Islamic sites.

Relative chronology of Iran's rock art

The best-known Iranian 'geometric' rock art motifs are two types usually found on the surface of Historical bas reliefs and architectural remains. One of the bas reliefs bearing this geometric depiction is at Qir in Fars province in the south of Iran (Karimi and Ujang 2015: Fig. 12), dating from the Parthian period (247 BCE–224 CE). Consequently, the age of this superimposed rock art can only be Parthian or, more likely, post-Parthian. The same 'geometric' rock art was also identified on the surface of rock masonry of the Takht-e Shirin monument (Figs 2 and 3). These remains are of the

Sasanian period (224–631 CE) and located in Bisotun area in Kermanshah, western Iran. On the surface of a sculptured rock slab of this monument are petroglyphs of long-horned 'ibex' and those 'geometric' figures. Obviously this rock art can only be of the Sasanian period or, most probably, of the Islamic period.

Fortunately, as mentioned these two motifs are the most common in Iran's 'geometric' rock art and were reported from many sites. So the same Parthian-Sasanin to Islamic antiquity is proposed for the following sites also:

- Kiwas Sour (Saffaran and Shoghi-e Babanazr 2015: Fig. 4a)
- Azandaryan (Hemati Azandaryani et al. 2015: 203)
- Arzanfud (Hemati Azandaryani 2016: Fig. 6)
- Erges-e Sofla (Beik Mohammadi et al. 2012: Fig. 2)
- Bichoun (Sabzi and Hemati Azandaryani 2017: Fig. 5)
- Qameshlu (Karimi and Ujang 2015: Fig. 2)
- Tang-e Barzgale (Montazer Zohori et al. 2011: Fig. 4)
- Qale Bozi (Mohammadi Ghasrian 2006)
- Boein Zahara (Mollasalehi et al. 2007: Fig. 11)
- Timreh (Farhadi 1998: 168–185)
- Kaftarlu (Naserifard 2016: 78)
- Maymand (Naserifard 2016: 134) (Figs 4–6)

In addition, there are also some other petroglyphs superimposed on Historical monuments, characterised by zoomorphic features. These sites are at Karaftu (Lahafian 2004), Cheshme Sohrab (Biglari et al. 2007) and Dasht-e Morghab (Karimi et al. 2016). Karaftu and Cheshme Sohrab are two natural caves in western Iran that were in Parthian-Sasanian times carved intentionally and shaped into Historical monuments. Petroglyphs have been superimposed on the hand-carved walls of these monuments. Obvi-

Figure 1. *Map of Iran showing the location of identified rock art sites.*

Figure 2. *'Geometric' rock art on Sasanian rock slab of Tahkt-e Shirin monument in Bisotoun area, Kermanshah.*

Figure 3. *Zoomorphic rock art on Sasanian rock slab of Tahkt-e Shirin monument.*

Figure 4. *Erges-e Sofla petroglyph in Malayer county, west of Iran, which also has this 'geometric' rock art (Beik Mohammadi et al. 2012: Fig. 2).*

Figure 5. *Bichoun rock art characterised by 'geometric' motifs (after Sabzi and Hemati Azandaryani 2017: Fig. 5).*

Figure 6. *Tang-e Barzgale rock art, Isfahan area (Montazer Zohori et al. 2011: Fig. 4).*

Figure 7. *One of the most important presumed hunting scenes of rock art in Iran, Timreh (Farhadi 1998).*

ously the superimposed rock art must either postdate the Parthian-Sasanin period or, most probably, date back to that period. Dasht-e Morghab is a fertile plain located in Fars province. On the masonry architecture of an Achaemenid (550–300 BCE) castle of the World Heritage site Pasargade located on that plain, several rock art clusters are identified. Most of the petroglyphs executed on this masonry were probably made after the Achaemenid (550–300 BCE) period (Karimi et al. 2016: Fig. 2).

The most common motif type of Iran's rock art are zoomorphs and particularly 'ibex' motifs characterised by exaggerated 'horns'. This animal is often shown with 'horse riders' in apparent hunting scenes (Fig. 7).

Regarding the identification of the domesticated horse from the Iron Age in the first millennium BCE onwards and its employment to draw vehicles in the Historic-Islamic era, the rock art of presumed hunting scenes with 'horse riders' cannot be of pre-Historic time and is thought to be at most of the first millennium BCE (Mohammadi Ghasrian 2017). There are many such

sites in Iran: Khra Hanjiran (Mohammadi Ghasrian and Naderi 2007), Saral (Lahafian 2004), Zafar Abad (Lahafian 2004), Mioleh (Shidrang 2007), Humyan (Remacle et al. 2006), Dustali (Hemati Azandaryani et al. 2014), Cheshmeh Malek (Rashidi Nejad et al. 2012), Qeshalgh (Mohamadifar and Hemati Azandaryani 2015), Shamsali and Gorgali (Hemati Azandaryani et al. 2015), Asbakhteh (Ayati Zadeh 2015), Ernan (Shahzadi 1997), Takht-e Siah (Mohamadi et al. 2016), Makran (Shirazi and Soltani 2015), Saravan (Sarhaddi-Dadian et al. 2015), Khorasan-e Jonubi (Ghorbani et al. 2016) and Khanik (Khaniki and Khaniki 2015).

Counting all mentioned sites demonstrates that nearly half of the known rock art sites in Iran are not pre-Historic and are thought to be of the Historic and Islamic periods.

Conclusion

An understanding of the antiquity of rock art sites is considered as a main methodological limitation of rock art studies in Iran. Here, I have presented some new chronological observations. Based on them, around 31 sites of Iran's rock art are proposed to be of the Historic to Islamic periods and not pre-Historic. My chronological remarks have their shortcomings too: first, the Historic-Islamic period is a long time span, although this does serve to separate pre-Historic rock art from subsequent traditions. Second, some of Iran's rock art, like that at Timreh, Houmyan, Saravan, Makaran and elsewhere, occurs as site complexes (Fig. 1), characterised by 'geometrics', 'horse riders' and further motifs. At site complexes such as Timreh with 30 000 or so petroglyphs these would not all be contemporaneous and of the Historic-Islamic period, obviously. Third, the mentioned geometric motifs used as an age indicator for dating rock art to Historic-Islamic period may derive from the pre-Historic period.

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RAR 37-1323

The petroglyphs of Kal Husseina in Nehbandān, eastern Iran

By HAMID REZA GHORBANI
and SARA SADEGHI

Introduction

The site of Kal Husseina is located some 1 km from the village of Kal Husseina in the Nehbandān County in South Khorāsān Province of Iran. The site comprises four scatters of boulders of basalt. The motifs are in danger of damage and erosion from the high impact of weathering. The site was well known to local inhabitants but was only documented for the first time archaeologically following its 'discovery' in 2013. The main technique applied in producing these petroglyphs is hammering, sometimes rubbing and very rarely engraving. The images in these sites include zoomorphs, anthropomorphs and geometric motifs, indiscernible shapes and some inscriptions that are engraved on the boulders. The petroglyph complex is near other sites in southern Khorasan province (Ghorbani 2013): the petroglyphs of Penhani from Nehbandān (Yarabbi et al. 2017) and a rock art site of Nakhlestān in Nehbandān (Ghorbani and Heydarian 2018) are the most important rock art localities reported from the eastern part of Iran so far. The Nehbandān area, due to its proximity to the desert, is a relatively large plain. Broadly, the region in the north contains elevations such as Kuh-Sorkh, Kuh-Bobak and Kuh-Bidmeshk reaching an elevation of 2500 m. In general, the slope in the Nehbandān region was south and south-west, and it leads to the plain of Sistan in the east and south-east, and in the south and south-west to the Dasht-e Lut Desert.

Figure 2. Kal Husseina 1 panel, zoomorph motifs and the word Ya Allah.

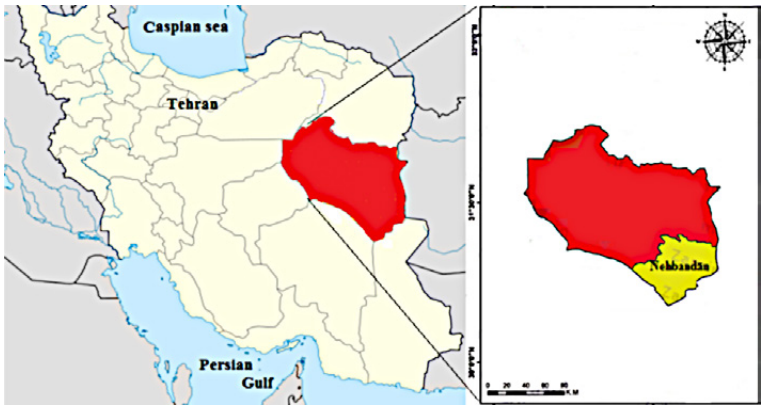

Figure 1. Map of Iran showing the location of Nehbandān and Kal Husseina rock art.

As mention above, four clusters of petroglyphs identified in this area were made on the basalt blocks (Fig. 1). The images include zoomorphs, anthropomorphs, geometric or symbolic motifs, indiscernible shapes and some inscriptions.

The first group occurs on all of the surfaces of the Kal Husseina 1 panel, where the majority of the more significant petroglyphs like presumed ibexes and the word Ya Allah are to be found (Fig. 2). Allah (/ˈælə, ˈaːlə, əlˈlaː/; romanised: Allāh) is the Arabic word

Figure 3. *Kal Husseina 2 panel, zoomorph and geometric motifs.*

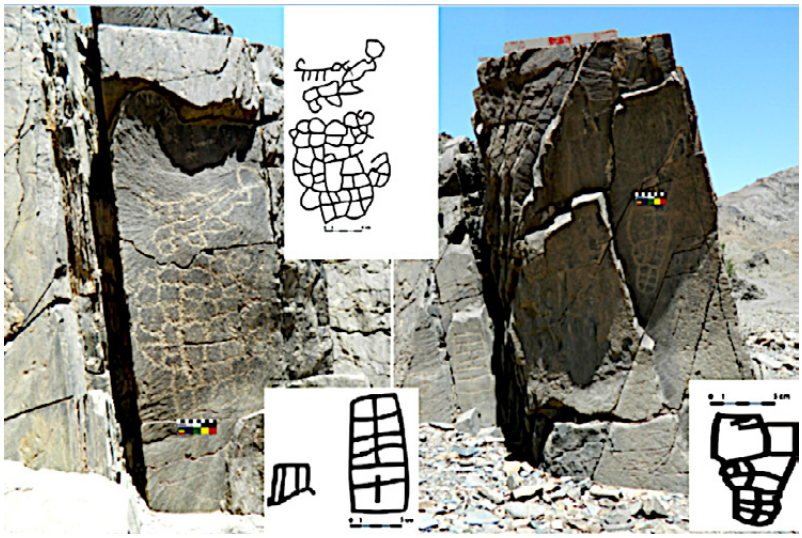

Figure 4. *Kal Husseina 3 panel, ambiguous and indistinguishable geometric motifs.*

Figure 5. *Kal Husseina 4 panel, Persian and Arabic rock inscriptions.*

for God. The next cluster, Kal Husseina 2, is presented in Figure 4: six 'ibexes', one geometric and one undiscernible shape. The geometric motifs include grids or reticulate patterns.

Kal Husseina 3 panel contains several ambiguous and indistinguishable geometric forms and one 'ibex' (Fig. 4). The last site, Kal Husseina 4, includes two stone slabs. On the first one, the Arabic name of bu Saeid is engraved, and on the other, a few Persian and Arabic inscriptions were written, including the names of local shepherds and farmers. We have recorded several 'layers' of inscriptions that have been superimposed upon earlier ones, over several decades, and this has impacted on older petroglyphs (Fig. 5).

These four rock art panels were identified in the Nehbandān geographic region by the authors. This region is a highland area which is favourable for dryland farmer and pastoralist groups. The main animal motifs on the petroglyphs are presumed ibex (or, generically, ovicaprids), depicted in different sizes and poses. According to the studies, only one 'human' figure, which is mounted on a 'horse', has been found at Kal Husseina. Inscriptions and geometric forms are the other motifs found in the region so far. By comparing the patterns of rock arts in the south of Khorasan with motifs elsewhere in eastern Iran we can see a lot of similarities, especially in Jorbat (Jajarm) (Vahdati 2012), Marzbanik (Moradi et al. 2013), Toos (Saffaran and Mozhdekanloo 2014), Negaran (Sarhaddi Dadian et al. 2015), Bishiklik (Rezaei et al. 2016), Nakhlestān (Ghorbani and Heydarian 2018) and Penhani (Yarabbi et al. 2017).

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RAR 37-1324

RAR REVIEW

What ever Happened to the People? Humans and Anthropomorphs in the Rock Art of Northern Africa: International Conference (Brussels, 17, 18 & 19 September 2015), edited by D. HUYGE and FRANCIS L. NOTEN. 2018. Royal Academy for Overseas Sciences, Brussels, hardcover, ISBN 978-90-756-5260-4. Top of Form

The aim of the thirty-six papers in this volume, as stated in the introduction, is to understand 'what the people [of North Africa] looked like, what their origin was, how they lived, and they dressed' (p. 5). The book is a follow up to a previous colloquium convened in 2010, which concentrated on chronology and palaeoenvironment aspects of North African rock art. Geographically grouped, the articles in this volume cover Morocco, Algeria, Tunisa, Libya, Egypt, Tchad, Niger and Mali. Three papers relate to rock art in Israel, Saudi Arabia and South Africa.

Expanding North African rock art research through the discovery (and rediscovery) of sites is extremely challenging. Rock art field research is not only intellectually demanding, but it often involves harsh, even dangerous, conditions, such as land mines from previous wars (see A. Zboray, p. 26), and the continuous menace of terrorism. It also requires important logistical and financial means, as well as long-term personal commitment. These qualifications are embodied in the late Francis Van Noten, a co-editor of this volume, and shared by many other Saharan field researchers, whose work is included in the book: A.-M. and A. Van Albada, C. Dupuy, C. and Y. Gauthier, M. Hachid, B. Fouilleux, B. E. Barich, S. Searight-Martinet and A. Rodrigue, to name only few.

On his tours in the Ouri plain of the Tibesti Mountains, in northern Tchad, Zboray braved mines and other uncertainties to discover and describe scenes of astonishing beauty and antiquity, testifying to a dynamic movement of ideas and people in the early Saharan Neolithic. In what is called the Korossom style, which is devoid of domesticated fauna, the depiction of human figures with 'unnatural body proportions,' along with 'fantastic beasts', evoke the headless animal from Wadi Sura (Egypt). On the other hand, the human figures of the pastoralist style — the Karnasahi — bear similarities to the paintings of the Tassili n'Ajjer (Algeria) and J. Uweinat, on the border of Egypt, Libya and Sudan. Among the pastoralists at Uweinat, Zboray notes the presence human figures with distinctive features: prominent eyes and double loincloths.

West of the Tibesti, Fouilleux looks at the diversity in human representations among the 'round head' and 'bovidian' paintings of the Tassili n'Ajjer (Sefar). Using images enhanced through the *DStretch* technique, he shows various human activities among the Bovidian style, including acrobatics, hunting, and copulation (Figs 29, 30). Some of the details have an important environmental significance (e.g. Fig. 39 showing two figures drawing water from a well). Other details, such as the belt and protome in the shape of an aurochs' head are similar to those found among engravings in the Libyan Messak (Figs 9 and 10). His focus on the round head figures is mostly on painted bodies and therianthropes.

South of the Tassili, in the Adrar des Isforas (Niger), Dupuy presents a compelling narrative of two developments in the Sahara during the second millennium BCE. Based on archaeological and archaeobotanic information, he describes the emergence of metallurgy and the cultivation of millet and discusses their cultural ramifications. The production of millet created an economic surplus, allowing for artisanal activities and the creation of prestige goods, including metal objects. The introduction of the horse and chariot exacerbated the ensuing social stratification and caused a shift in resource allocation, with millet being used to feed horses. Aspects of these developments are widely depicted in rock art of the Adrar des Iforas, showing lance-wielding horsemen, their clothes and hair styles.

In the Acacus, Tadrart and Djado, J. Soukupova examines the relationship between round head paintings and rare engravings known as Kel Essuf. These two styles of rock art are found in the same shelters, and the form and attributes of their anthropomorphous representations share similarities. Their origins, she says, may be connected to the appearance and spread of pottery in the Sahara during the Epipaleolithic.

From the Moroccan Atlas at Yagour, we learn about the association of anthropomorphs with images of what is called 'les peaux de boeuf' ('bovine hides') dating to the Bronze Age. These images, A. Ewague and B. Hoarau say, may have had a funerary symbolism. The representations of humans and metallic arms (e.g. halberds) in the High Atlas suggest to Rodrigue a hierarchical society and a power structure based on 'une certaine sacralization des armes'. The difference

in patination of the anthropomorphs from Azib n'Ikkis and the inscriptions superimposed on them, Rodrigue says, indicates a later date for the Libyco-Berber writing. In southern Morocco, A. Louart believes that pedomorphic images at Wadi Sayyad indicate a male ritual phenomenon. Judging from the clothes, axes, bows etc., of the figures in this area, Searight-Martinet concludes that the images in southern Morocco are unrelated to the 'images engraved in the High Atlas mountains … since their context and meaning belong to another Mediterranean world, far removed — but not entirely — from the preoccupation of southern Morocco'.

In Tunisia, Yahia-Acheche analyses the modalities of the representation of humans and their comportment in rock art, while J. Ben Nasr brings some ethnographic light to the representation of the ram at the R'mada shelter, connecting it to recorded ritual practices in North Africa (e.g. Boujloud, Bou Btan etc.).

The iconography of the ram in Algeria also preoccupies C. Roubet, who locates the origin of domesticated ovine and caprine in the Rif (Morocco), where she postulates the arrival of sheep and goats and wheat cultivation from Spain during the early Holocene (9–8 ka ago). This, she says, was followed by 'une vaste diffusion' of sheep pastoralism to the Saharan Atlas and the Aures in Algeria. The basis of this theory of dispersion from the Rif, however, is not impressive (e.g. one seashell, *Murex tranculus*, from Tiout, reported by Flamand in 1892). The author doubts that there is any archaeological association between rock art and the Capsian culture.

In the Saharan Atlas, Hachid and F. Chentir trace the ethnic identity of the human representations to white people, the proto-Mediterranean inhabitants of North Africa. These people, who are assimilated to proto-Berbers, practised ovine and caprine pastoralism. Some of the Saharan Atlas rock art is attributed to periodic incursions of black pastoralists who migrated from the Sahara. The latest incursion, the authors believe, was that of black hunters/pastoralists, who migrated around the first millennium BCE from the Atlantic Sahara into southern Morocco and the Saharan Atlas. Evidence of this incursion, they assert, includes images of a peltifom axe (Metgourin hatchet), people with black features, and a distinct hunting pattern: unlike the figures of white people who hunt wild cattle, the authors say, black figures hunt elephant. The authors conclude from this that 'Il semble donc que ce soit plutôt des protomediterranéens, les 'maîtres' de l'Atlas, les seuls à posséder des bêtes domestiques, les seuls autorisés à chasser *Bos primigenius*' (p. 122).

The issues of race, ethnicity, and the language to describe them (*negroid, europoid, malanoderm, leucoderm* etc.), cause F. Soleilhavoup some intellectual discomfort, which he manages to avoid in an excellent discussion of gender and the social, cultural and symbolic roles of women in rock art. Gender is also the subject of a paper by Barich, who stresses the limitations of rock art and archaeology as sources of information relating to the status and symbolic role of women. At Dakhla, she identifies some anthropomorphs from the Winkler site 62 as a possible initiation ritual for girls. A return trip to northern Tchad to collect images convinces D. Coulson that body decoration in rock art may be similar to contemporary practices among the Ethiopian Surma in Omo.

The idea of local Neolithisation is hotly debated in the literature. Pointing to genetic and archaeological data, A. and A.-M. Van Albada think that the N'dama type of cattle may have been domesticated locally in areas between Mali, Libya and Egypt. Small, adapted to the local climate and resistant to parasites, N'dama are widespread in the western sub-Sahara. Along with cattle images in Saharan rock art, she adds, masks and hairdos also invoke African artistic traditions.

Fishing, one of the rare topics in rock art, is discussed in the Gauthiers' paper. They explore various aspects of this activity and its importance not only for subsistence, but also its secondary effects: the creation of canoes, nets, pottery, harpoons and so forth. In their study of Borku (Tchad) area – Artchana II, they find that depiction of fishing is highest among the round head paintings but absent in later periods, indicating a change in the climate and in the subsistence system. They also note the absence of representations of fish in Artchana II; hippopotamus is the only aquatic animal depicted.

Numerous essays dealt with rock art in Egypt, including a paper by D. Huyge and A. Kelany on the antiquity of the rock art tradition in North Africa — and its Pleistocene origin at Qutra and al-Hosh.

Exploration of the Cave of Beasts at Wadi Sura II, in Gilf Kebir, was undertaken by F. Föster and M.-H. Scheid. Their computer-aided images show the variety of human representations and other recorded motifs. In terms of style, semantics and chronology, these images bear a resemblance to figures documented by Zboray in the Tibesti. They also show some affinities to the round head representation of Uweinat, where A. M. Noguera describes the body proportions and poses of the human figures (idle, sitting, gesturing and dancing, etc.).

Some of the papers focus on rock art east of the Nile and around Aswan Lake. East of Aswan, G. Graff et al. classify human figures according to activities (dancing, hunting, canoeing etc.), and at Naqada, A. Bremont looks at animal figures as possible indicators of chronology. Investigating human images in the Eastern Desert, A. Judd tries to test Watson's idea that rock art may have had no significance (no forethought) to the creator artists.

Most of the essays on Egyptian rock art also attempt to identify possible connections between this art and Predynastic and Dynastic developments. Hendrickx et al. find that the anthropomorphous representations of the Egyptian Predynastic artefacts D-ware reflect a female world (i.e. an absence of hunting), in contrast to

the C-ware and the rock art iconography of el-Kalb. A similar idea about the female character of the Naqada D-ware is also advanced by F. Lankester. At Dakhla, P. L. Polkowsky discusses foot and sandal motifs, suggesting that, as in the Egyptian temple iconography, they represent the footprints of the deity, a signature of a traveler, and embodiment of someone's else soul. At the Kharqa Oasis, S. Ikram studies the typology of people in terms of size, shape and style. J. C. Darnell draws a parallel between human skin and the rock face, two surfaces which receive symbolic images of ritualistic significance. And M. Nilson documents the stylistic, technical and chronological change in Gebel Silsila which hosts petroglyphs and writing ranging from Epipaleolithic times to Roman period.

* * *

While many of its individual essays are vulnerable to criticism, the value of the book is undeniable; it sets the stage for a dialogue among researchers on topics and levels beyond their unique areas of specialisation. One area which would have benefited this book is the integration of new genomic research, where North Africa is emerging as an area of increasing interest to paleoanthropological studies (see e.g. Achrati 2014; Hublin et al. 2017).

The inclusion of papers from Saudi Arabia (M. Guagnin), Israel (D. Eisenberg-Degen), and South Africa (A. Solomon) enriches the volume to the extent that it presents some chronological, thematic and technical parallels. But it also points to a shortcoming of the book: Why were Sudan, Mauritania and even Iberia left out given their historical and geographical bonds to North Africa?

Finally, a minor observation related to the title of the book. The chief concern of the book — the 'people' in the volume's title ('What ever happened to the people? ...') — seems to be the makers of North African rock art. But the subtitle, 'Humans and Anthropomorphs *in the Rock Art*,' indicates that the people depicted in this rock art are themselves the rock art makers. However, rock art images are not 'straightforward historical or ethnographic documents,' as A Solomon said (p. 532). The idea that rock art is mimetic is the doorway for all sorts of subjective projections, which, though unavoidable, should be checked and controlled. Unfortunately, this ground rule has not been observed in some of the essays in the book.

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RAR 37-1325

Drawing in the land: rock art in the Upper Nepean, Sydney Basin, New South Wales, by JULIE DIBDEN. 2019. *Terra Australis* 49, ANU Press, Canberra, 211 pages, 53 illustrations, soft/hardcover, $AU55.00, ISBN 978-1760-4625-81. Free download at *https://press-files.anu.edu.au/downloads/press/n4651/pdf/book.pdf*.

In a revision of her 2011 PhD thesis, Julie Dibden explores change and transformation in the social geography of the Upper Nepean River Catchment (UNRC) through a study of the location of rock markings in the landscape over time. Although within the broader realm of the Sydney-Hawkesbury-Shoalhaven art corpus, this is the first in-depth analysis of the rock art of the UNRC: one of the most rugged regions of eastern NSW. The title can be seen as a play on the words 'drawing in ...' as a reference to the drawing technique that dominates the art corpus, and also to the gathering and tying up of the data on anthropogenic rock markings, presenting an interpretation of the analysis. The title is somewhat misleading as little of the art is actually depicted in the publication; it presents tables of motif type numbers with few illustrations, implying a knowledge of the art of the reader from either personal association or the work of previous researchers.

The theoretical primacy of this archaeological study draws heavily on the ideas of Rosenfeld (1997) and Layton (1992), and also of Bradley (1991) and Thomas (2008), to develop a thesis of why the rock art of the region changed over time, and what this change may have meant for Aboriginal society: their occupation of and engagement with the land, given the possibility that 'the significance of rock art may be in its production context' (p. 6). Her analysis attempts to link the rock markings with their position in the broader landscape and the 'micro-topographic' location (the association of the art with the natural topographic features of the shelters' interior) to identify temporal changes.

The study area is that of the valleys and ridges of the Cataract, Cordeaux, Avon and Upper Nepean River; all of these meet to form the greater Nepean River that in turn joins the larger Hawkesbury River before flowing north-east to the sea. These tributary catchments form the basis of Dibden's spatial groups as human movement through the rugged area is largely restricted to the valley floors or ridge crests.

The first four chapters provide the background for the study, both from a theoretical and environmental perspective. Dibden highlights the dearth of ethnographic material available from the region over the contact period; this is primarily due to the landscape being considered inhospitable by the invading settlers.

Following Forge (1991) and Rosenfeld (1997), Dibden (p. 14) divides rock art into two classes:

- Graphics: 'coherent sets of images the meanings of which are conveyed by their visual qualities as constrained by conventions of graphic construction', that are derived from a structured and cor-

porately mediated referential visual system; and

- non-graphic Gestural Marks (mechanically imposed forms such as stencils and others that result from gestural actions, such as pitted or rubbed surfaces, and non-graphic applications of pigment, which include, for example, applications of pigment to natural features on rock art panels.

The statement qualifies the division that Graphic and non-graphic Gestural Marks *may* relate to different facets of societal expression, but that other than in the ethnographic present 'we cannot assume that this has always been the case' (p. 6).

The methodology of her study is presented in Chapter 5 where she utilises data from previous surveys by the Illawarra Prehistory Group (IPG), 700 sites (e.g. Sefton 2013), and 110 sites that she herself recorded. The two data sets are not the same, with the more specific being recorded from Dibden's sample (such as the inclusion of rock pitting and abrading, and instances of isomorphic congruence; attributes she addresses in some detail). The methodology used by the IPG is referenced to Sefton (1988): an unpublished thesis that is not readily available to the reader. The recorded attributes are well described for both data sets, and throughout the analysis, she specifies which of the two data sets are being used and when the two sets are combined.

Her results are presented in two stages: firstly, in Chapter 6 she discusses the simple counts of the various data classes, with their site distributions in relation to the sites' context (open or shelter sites) being plotted on simplified topographic maps of the study area. The major site type was rockshelters with pigment rock art (81%), and these were also the most widely occurring site type within the study area. The clarity of discussion of these results is good; their presentation, however, is broken by the inclusion of lengthy methodological and interpretative material that should have been presented in the preceding chapter (Methodology) or the following discussion chapters. In the second stage of her results, Chapter 7, Dibden derives a temporal sequence (phases 1–3) from superimposition sequences within her study area which, despite the small sample size (p. 114), compared favourably with that proposed by researchers in adjacent areas (McDonald, Officer and Sefton).

The results are followed by her analysis, Chapters 8 and 9, examining the distribution of these site types, their attributes and their contents, from a temporal perspective. These I found the most interesting chapters both in concept and execution, with distinct differences being uncovered between the three rock art phases. Examples are the preference in phase 1 for shelters to occur 'on broad, relatively flat and accessible platforms' (p. 178); the tendency for phase 3 hand stencils, in contrast to those of phase 2 hand stencils, to occur in secluded locations away from the major thoroughfares of valleys and ridge tops (p. 183); and the re-marking of phase 2 motifs during phase 3. However, the phase divisions can also be seen as subjective. The graphics of phase 1 and phase 2a show a similar distribution pattern and continuation of motif types, but one set is pecked and the other painted. The introduction of stencils in phase 2a appears to be based on colour, but there is also the possibility that both stencils and phase 2a graphics were contemporaneous with the phase 1 petroglyphs. Her division has not been amply demonstrated. Similarly, the allocation of red drawings to phase 2b, rather than a phase 3a (as drawing begins to dominate as a technique in phase 3) requires greater substantiation.

The final chapter links the results of the rock art analysis to possible changes in the local Aboriginal people's mediation with the land since the mid-Holocene. This concluding chapter is disappointing as, overall, it appears that she is trying to fit the art phases onto a preconceived social framework of an ideological change during phase 2 (clan totemism) and phase 3, implicitly in the contact period, through an increase in the rock art's quantity and variety. Given the lack of any chronological control over the 'art' phases, what is presented is largely hypothesising one possible scenario with no other scenarios being considered. The chapter also contains some minor contradictions with the data presented earlier (e.g. p. 141 and 191). Further, the use of patterns derived particularly from the rock art of central Australia is recurrent and, while offering a possible reason for a change, should not be taken for granted in a region so environmentally different.

The study has some problems, both with the analysis and its interpretation, as several of the issues could have been better resolved; particularly the standard of the distribution maps, where it is difficult to interpret between the various, very similar symbols. There are also some notable omissions in the discussions, such as discussing the 'Panaramitee' and failing to mention the extensive work on this subject by Franklin (e.g. 2004). Although updated from Dibden's 2011 thesis, in some areas, some notable post-2011 omissions could have provided valuable input (e.g. Sefton 2013; Hiscock et al. 2016).

The study makes much of the 'unprecedented and prolific' use of charcoal in her phase 3, as the media is 'often used … in contexts of cross-cultural exchange between Aboriginal people and Europeans' (p. 194). This assumption has two problems:

- the first is that, in drawing on the studies of Frederick (2000) and Smith and Rosenfeld (1992) in central Australia, she has not demonstrated that it is 'often used' in such a context; and
- the second, which she acknowledges (p. 114, 195), is that of the fugitive nature of charcoal drawings.

Consequently, it is to be expected that only the more recent examples of the media will survive. As she has not shown that there was a dearth of charcoal in the preceding two phases (1 and 2), the surviving pattern may simply be the result of taphonomic rath-

er than social processes.

Similarly, the allocation of fine scratched images to the recent repertoire begs the question of whether fine scratchings from earlier phases would be visible today, given the vagaries of patination and weathering.

Another unqualified issue is the repeated use of the division of rock art into Graphics and non-graphic Gestural Marks. Although drawing on the work of Forge and Rosenfeld, who both saw hand stencils in particular as being limited to individual identity and therefore not bearing any significant information regarding broad social interactions, there is no discussion of alternative views and why this view is chosen over another. This is a restricting view of rock art as there are ethnographic examples where hand stencils are interpreted as being no different to painted and drawn images: to them today, both come from and relate to the Dreaming (Gunn 2006: 98 and note also the graphic use of stencils in Walsh 1979, 1983). Whether one or the other, or all, interpretations can be applied to hand stencils from the deep past remains unknown. Similarly, the separation of other 'gestural marks' from 'constructed graphics' also begs questions of interpretation that cannot be taken for granted, as the recent use of scratching as a graphic media in the Kimberley has shown (O'Connor et al. 2013).

Dibden's demonstration of the rock art sequences is sound and proves consistent not only with adjacent areas but also it appears to be the picture of the rock art sequence emerging throughout south-eastern Australia. Dibden's study of rock art about shelter micro-topography is commendable too, as micro-topography is a field that has been little explored previously. Due to the small number of examples in her study area, however, she is unable to demonstrate any positive conclusions, and the subject remains open to further and more detailed research.

On the whole, the concept of the study is very wide-ranging and probably over-ambitious, and, unfortunately, the study region did not provide more productive results. All aspects of the rock art she examines could warrant a thesis on their own, and certainly, it provides much impetus for further research. Had the thesis been published, as a whole or as papers, soon after its completion the contribution it could have had to Australian rock art studies would have been much greater; but it is still not too late.

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RAR 37-1326

Early rock art of the American West: the geometric enigma, by EKKEHART MALOTKI and ELLEN DISSANAYAKE. 2018. University of Washington Press, Seattle, 312 pages, 193 colour illustrations, bibliography, hardcover US$90.00; paperback US$34.95, ISBN 978-0-2957-43615.

A book on the earliest known rock art of North America has long been overdue. The expectation that geometric or noniconic traditions will be shown to be the oldest in that continent has long been around, at least since the early 1960s. The 'pit-and-groove' petroglyphs and the 'pitted boulders' of the western U.S. states have been recognised as the first rock art by

Heizer and Baumhoff (1962) and Grant (1967), and later by Parkman (1992), among others. More complex but always nonfigurative petroglyphs seem to follow these cupule-dominated traditions. The pattern is repeated in South America, as would be expected. But what is particularly perplexing about it is the similarity between these early American conventions and those of the Old World, and particularly Australia, which are far more ancient, especially in Asia and Africa, so there is not likely to be a direct connection. But there are distinct similarities in chronological developments, which to some extent can be explained by taphonomy: simple geometrics and cupules tend to outlast more complex motifs because they tend to be more deeply engraved. However, this alone does not seem to explain the global pattern, which has been misinterpreted through the focus on the south-western European traditions of final Pleistocene cave art and its overemphasised iconic content. In reality, as Bednarik (1986) has pointed out, an estimated more than three-quarters of the two-dimensional Franco-Cantabrian Pleistocene palaeoart is nonfigurative, an estimate supported by Bahn (Bahn and Vertut 1988). Somehow commentators have convinced themselves that this European rock art of animal imagery is easier to relate to than the enigmatic 'signs' and finger flutings in the caves — or, for that matter, the early rock art now seen in the United States.

Here, finally, is a book that presents the remarkable first palaeoart of North America comprehensively and in all its glory. Malotki's marvellous ability to capture rock art photographically has been noted before as being without equal, and this book is no exception. Many of its images are without question masterworks in their own right, in addition to being valuable documentation for the book's topic. But what makes this volume so precious is the most propitious combination of Malotki's encyclopaedic knowledge of the Southwest's rock art with Dissanayake's sophisticated understanding of the nature of art-like production. Dissanayake has long espoused the idea that art is 'artification', that is, making something special, a concept she explains in detail here (pp. 27–45). In this elegant solution to an old chestnut she has demonstrated that the discussion of the nature of art is superfluous; that there is no evidence that any palaeoart, including any rock art, is 'art' in the modern, Western sense; or that any of it is necessarily symbolic. Her solution to the issue of what art is, like so many answers to intricate research clichés, is both ingenious and compelling.

The history of palaeoart production illustrates amply that Dissanayake is on the right track, spanning as it does from the first manuports to the artification of objects by edge notches, by engraved lines responding to their edges or surfaces, eventually becoming ever more intricate. As graphic conventions emerge, so do recognisable motif templates, and this is well expressed in the near-global distribution of the archaic linear traditions. This book documents numerous incredible parallels between the continents. There are the often dense, incredible accumulations of cupules, from the Kalahari to Arizona, and the close resemblances of intricate reticulate patterns to those of the early petroglyphs of Australia. Many of the photographs in this book could have almost been taken at Australian archaic linear petroglyph sites of the final Pleistocene and early Holocene, some of which are likely matched in age by the American traditions. This is suggested by the dated tufa site at Winnemucca Dry Lake, Nevada (p. 138), and by the extensive series of engraved limestone and chert plaques from the Clovis site of Gault in Texas (p. 62). Other portable objects from the United States are less effective in defining traditions, or lack evidence placing them in the early human history of the continent.

Notwithstanding any of this, it needs to be clarified that this book presents a valuable cross-section of early nonfigurative rock art, nearly all of which is undated. Since aniconic (nonfigurative) petroglyphs were also made in the Late Holocene, in North America and elsewhere, there can be no expectation that all of the examples listed here are necessarily 'very early' (say, Final Pleistocene to Early Holocene). There can be little doubt that some of the continent's earliest rock art is included on the pages in this book, but equally, there are many much more recent examples also. Now comes the tricky part: facilitating the establishment of a chronological framework for this incredible wealth of aniconic petroglyphs, and placing individual expressions of the various traditions within it. Malotki and Dissanayake have most competently identified the 'geometric enigma'. Let us see if archaeometry can rise to the challenge of undoing this veritable Gordian knot.

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RAR 37-1327

(This review has been republished from *Evolutionary Studies in Imaginative Culture* 3(1): 133–134.)

Graffiti as devotion: along the Nile and beyond, edited by GEOFF EMBERLING and SUZANNE DAVIS. 2019. University of Michigan, Kelsey Museum of Archaeology, Kelsey Museum Publication 16, Ann Arbor, 211 pages, colour illustrations, paperback, ISBN 13-978-0-9906623-9-6.

As a catalogue, this gorgeous publication accompanies the exhibition *Graffiti as devotion along the Nile: El-Kurru, Sudan*, running from 23 August 2019 until 20 March 2020 at the Kelsey Museum of Archaeology at the University of Michigan-Ann Arbor. As such, its primary purpose is to entice visitors to the show, and it does a superb job. A secondary purpose is to summarise the main work on view and provide deeper information for visitors, which it also does quite well. While intended for non-specialists, this catalogue provides sufficient scholarly sources to satisfy the curiosity of any professional who knows little about the rock art of Egypt and Sudan. There are eight chapters, most focusing on and around the region of the Nile River between Aswan and Khartoum, but others ranging as far afield as Pompeii, Italy. To educate viewers and readers unfamiliar with the region and its history, the book also includes colour images of a map and timeline. Scholars may be more interested in the list of contributors, which includes an impressive roster of researchers from Egypt, Sudan, Norway, Poland and the United States. Each chapter includes a rather extensive bibliography, should readers choose to pursue specific lines of enquiry.

In 'Foreword: graffiti in ancient Kush and medieval Nubia: an introduction', editors Geoff Emberling and Suzanne Davis relate how the impetus for both the exhibition and its accompanying catalogue was the discovery of a new graffiti group in an unfinished temple at the site of El-Kurru in Sudan. They define 'graffiti' for the purposes of this publication as 'unsanctioned marks in public built spaces' and include both visual and textual forms in conformance with the scholarly tradition of Sudan. They qualify 'marks of devotion' as those that 'have a symbolic repertoire that incorporates images related to offerings (offering tables and altars), to the movement associated with pilgrimage (feet, sandals, boats and horses), and of other religious symbols (sacred animals, for example)' (pp. xv–xvii).

In Geoff Emberling's first chapter, 'A cultural history of Kush: politics, economy, and ritual practice', he gives a brief overview of each major period in the history of this region, known as Napata in antiquity, with an eye to providing the geographical, economic and political background to key sites that will be discussed concerning the graffiti. Emberling concludes his cultural history with the promise that the graffiti of El-Kurru attests to many of these shifts and changes.

In the second chapter, 'Graffiti and El-Kurru: the funerary temple', Suzanne Davis and Geoff Emberling give their readers their first glimpse of the images and texts carved throughout this enigmatic structure. The International Kurru Archaeological Project (IKAP) has been working on excavating the rock-cut temple and recording the inscriptions and images since 2013. As part of the team, Davis and Emberling have helped create a rough timeline and structural framework. To date, IKAP members have recorded 643 'ancient' graffiti, located mostly on the courtyard columns, but some on the walls. Davis and Emberling offer descriptions of a nice variety of images, their relative locations, possible interpretations, and even proffer some tentative dates.

Bruce Beyer Williams, in the third chapter, 'Boat graffiti on the El-Kurru pyramid', addresses pictorial graffiti on the other significant structure on the site, Kurru 01 (abbreviated as Ku. 1 throughout the text). After a brief discussion about the history of the pyramid and the recording process, Williams focuses the remainder of the chapter on 37 graffiti featuring boats. He argues that these particular graffiti were made in the Christian period, 600–1400 CE, due primarily to the proximity of the site of El-Kurru, a nearby town for which the entire site is named. After a technical discussion about the three types of boats he recognised in his analysis, including details about the features of each type of vessel, he proceeds to compare the graffiti to known sources, such as the Nile Mosaic or inscriptions found at the Monastery of Qasr el-Wizz. He also draws comparisons to historical sources written and illustrated by 19th-century travellers, as well as modern vessels still seen plying the waters of Sudan. Alexandros Tsakos offers a short excursus in this chapter on the linguistic terms found in the Old Nubian language, presenting an interesting hypothesis linking linguistic terms from medieval textual sources that may help support the proposed dating scheme of the iconography found in this region.

Suzanne Davis, in her role as an archaeological conservator, contributed the fourth chapter, 'Conservation and documentation of graffiti at El-Kurru'. She writes that the team had two main goals: (1) to record and preserve the graffiti virtually to document iconography, but also the state of preservation, and (2) to make the images available to the public. A necessary component of any conservation effort is a thorough site analysis and condition report. To this end, Davis and her team used photography and reflectance transformation imaging (RTI) to record any deliberate mark-making. She discusses other recording techniques as well, explaining why the creators made the choices they made, thus making an important contribution to the global discussion about the role of technology in recording. Davis also outlines her process of analysis and testing to find the best method to stabilise the fragile stone surfaces, electing, in the end, to go with the least invasive technique, grouting cracks with a lime mortar to lessen the effects of water intrusion. She also discusses the merits of other measures, such as building a shelter over the site and explains why the team has refrained from further conservation efforts for now. Significant findings include documentation that wind erosion at

the site has been slower than originally feared, and the modern defacements have been effectively addressed by local site stewards educating visiting school groups.

Scholars focusing on sites beyond El-Kurru contributed the final four chapters. Jeremy Pope writes of Meroitic era figural graffiti at the Ptolemaic/Roman site of Philae, drawing an interesting comparison between the images and intent displayed at El-Kurru. He posits that this outpost served as a linchpin between Meroitic rulers to the south and their Egyptian neighbours to the north. While acknowledging that research into the figural graffiti is just beginning, he argues that temple construction at Philae began at the behest of a Nubian king and that many of the people who left their marks were pilgrims from the south. The graffiti provide evidence of a complex, long-term relationship between two powerful political centres. Bogdan Zurawski contributes a chapter on the graffiti found at the Pilgrimage Churches of Saint Raphael the Archangel in Banganarti, Sudan, located about midpoint between the third and fourth cataracts on the Nile. Dated clearly to the late Christian era, the graffiti are evidence of a society undergoing titanic stresses and seeking solace in the supernatural. Fawzi Hassan Bakhiet writes a general study of Nubian rock art found between the fourth and fifth cataracts, a region just to the east of El-Kurru. He defines rock art as 'non-textual', thereby simplifying his summary. This chapter offers a mix of colour photographs and black-and-white drawings to highlight specific iconography, but usually pulls images completely out of context, which limits the usefulness of his analysis. The final chapter is an interesting inclusion, Rebecca Benefiel's work on the graffiti found at Pompeii, Italy. While superficial because she is trying to pull out specific themes from among over 11 000 inscriptions, she does an excellent job of illustrating how graffiti can bring to life the thoughts and feelings of ancient peoples. However, beyond a couple of boat images, I see no comparison to the work at El-Kurru. So I am left with the impression that her methodology was of greater interest to her colleagues when they included her work in the book, rather than the imagery.

The final contributions to round out the text include a photographic essay by Ayman Damarany on Hajj paintings found on the exterior wall of houses in two small villages in Egypt, an interesting comparison with the pilgrimage images at El-Kurru and other ancient sites. There is also an illustrated catalogue of selected graffiti from El-Kurru with contextual records of the pyramid and funerary temple included to help readers place specific images. Each image is accompanied by technical data, including their catalogue number, location, dimensions, as well as a short comment, often including references to earlier scholarly sources. All catalogue images are in colour, which is such a lovely change from traditional publications on rock art. A bibliography and a concordance table complete the publication.

If you are a specialist on the rock art of the Nile region, you may find this text of limited value, since it is so tightly focused on the upper reaches of the river. Scholars from farther afield will find the volume a useful entry point for understanding rock images from this region, but also for contributions to recording and conserving sites. Overall, this text is beautifully illustrated, clearly documented and vitally interesting. Since I know little about the rock art or cultural traditions of this region, I found this exhibition catalogue provides a nice window into both.

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RAR 37-1328

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). A recent issue includes these research articles:

Number 85 (2019):
MONNEY, J.: Engraved rocks in Guadeloupe: new prospections new discoveries.
PERROT-MINNOT, S.: An engraved rock at Fort-de-France (Martinique).
HERMANN, L.: The rock art of Tchatchikei in the Kenkol Valley (Talas Oblast) in Kirghizstan.
AUFFRET, M.-C.: Footprints and shoeprints in proto-historical rock art.

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

Volume 27–28 (2018):
BEDNARIK, R. G.: Confirming V. S. Wakankar's vision.
NEUMAYER, E.: Remembering the Bhimbetka days with Dr V. S. Wakankar.
KUMAR, G.: My spiritual guru Dr V. S. Wakankar.
BEDNARIK, R. G., G. KUMAR, A. PRADHAN and R. KRISHNA: Dating the Daraki-Chattan petroglyphs: a progress report.
SCHAAP, B.: Redefining the Raisen style in rock paintings.
GARGE, T. M., B. V. KULKARNI R. A. APTE and S. RISBUD: Petroglyphs in Konkan: historiography, recent discoveries and future endeavours.
GARNAYAK, D. B.: Recently discovered rock art sites in Chandaka Wildlife Sanctuary, Odisha.
KRISHNA, R.: Issues in the management and promo-

tion of Bhimbetka, the only UNESCO World Heritage rock art site in India.
KUMAR, G.: RASI protocol for rock art research and its publication.
SPALZIN, S. and TASHIMORUP: Rumbak Valley: a new rock art site complex in Ladakh.
GUPTA, S. S.: Select monastic establishments in the rock art sites of central India.
RAGHU, Y.: A newly discovered rock art site at Lanja Banda in Kurnool district of Andhra Pradesh.
GENTELA, K. V., A. KUMAR and K. J. MILTON: A study of rock art sites at Devarlamorey and Peerollaloddi in Lower Godavari Valley, Telangana.
HARAGOPAL, S. and V. MURALIKRISHNA: Rock art site at Ratnapur in Telangana.
CHARI, K. S.: Recent discoveries of rock art in district Mahabubnagar, Telangana.
REDDY, B. M.: Discovery of rock art sites in Telangana State reported during 2016–2017.

RECENT BOOKS OF INTEREST

Palaeoart of the Ice Age (2nd edn) by ROBERT G. BEDNARIK. 2017. Cambridge Scholars Publishing, Newcastle upon Tyne. ISBN 978-1-4438-9517-0.

The human condition (2nd edn, in Persian:), by ROBERT G. BEDNARIK. 2017 (1395 Shamsi). Translated by Vahid Askerpour.

Rock art science: the scientific study of palaeoart (3rd edn, in Chinese), by ROBERT G. BEDNARIK, translated by Jin Anni. Classic World Rock Art Books Series, Hung Hom College, Inner Mongolia Normal University, Huhhot, China, 299 pages. ISBN 978-7-5665-1702-9.

Tribology in geology and archaeology, by ROBERT G. BEDNARIK. 2019. Nova Science Publishers, New York. Hardcover, ISBN 978-1-53614-909-8.

Изобразительные *и* технологические традиции ранних форм искусства. Памяти *Е. Г.* Дэвлет (*Iconographic and technological traditions in early forms of art. In memory of E. G. Devlet*, edited by M. A. DEVLET, G. G. KOROL, O. S. SOVETOVA and E. A. MIKLASHEVICH. 2019. Proceedings of the Siberian Association of Prehistoric Art Researchers, Vol. XII, Kuzbassvuzizdat, Kemerovo, 384 pages, profusely illustrated, downloadable at *https://yadi.sk/i/o08LqRnMl2wAgw*, ISBN 978-5-202-01433-8.

Arte rupestre en la Región Amazonas – Rock art in the Amazon region – Duik muun cayanum dakumak ukukbau Amazonas nugkeen, by DANIEL SEUART CASTILLO BENITEZ. 2019. National University of Toribio Rodríguez de Mendoza of the Amazon, Chachapoyas, Peru, 125 pages, profusely illustrated in colour, text in Spanish, Englisch and Awajun, softcover, ISBN 978-612-47087-7-0.

RECENT PAPERS OF INTEREST

Scientific investigations into Saudi Arabian rock art: a review, by ROBERT G. BEDNARIK. 2017. *Mediterranean Archaeology and Archaeometry*, Volume 17, Number 4, pp. 43–59.

Dating rock art via speleothems: a critical review of results, by ROBERT G. BEDNARIK. 2017. In Benjamin Veress and Jozsi Szigethy (eds), *Horizons in Earth Science Research*, Volume 17, pp. 179–196. Nova Science Publishers, New York. ISBN 978-1-53612-831-4.

The relevance of archaeological propositions to semiotics, by ROBERT G. BEDNARIK. 2018. In Pederapu Chennareddy (ed.), *History, culture and archaeological studies: recent trends. Commemoration volume to M.L.K. Murty*, Volume II, pp. 61–70. B.R. Publishing Corporation, Delhi.

A dolomite rock gong at Ga-Mohana, a ritual site in the Kuruman Hills, by DAVID MORRIS, LOURENÇO PINTO and JANI LOUW. 2018. *The Digging Stick*, Volume 35, Number 2, pp. 7–8.

Elephanthropes of the Cederberg: when elephants were people, by WNDREW PATERSON. 2018. *The Digging Stick*, Volume 35, Number 3, pp. 1–6.

Fluvial erosion of inscriptions and petroglyphs at Siega Verde, Spain, by ROBERT G. BEDNARIK. 2018. In G. Nash and A. Mazel (eds), *Narratives and journeys in rock art: a reader*, pp. 56–69. Archaeopress Publishing Ltd, Oxford.

Characterization of petroglyphs, by ROBERT G. BEDNARIK. 2018. In Sandra L. López Varela (ed.), *The encyclopedia of archaeological sciences*, doi:10.1002/9781119188230.saseas0079. John Wiley & Sons, Inc., Hoboken.

Henri Breuil and the imagination of prehistory: 'mixing up rubble, trouble and stratification', by SAUL DUBOW. 2019. *South African Archaeological Society Goodwin Series*, Volume 12, pp. 31–43.

Non-human whalers in Nuu-chah-nulth art and ritual: reappraising orca in archaeological context, by ALAN D. McMILLAN. 2019. *Cambridge Archaeological Journal*, Volume 29, Number 2, pp. 309–326.

Roads, ghosts and rock paintings in the Swartrug-

gens, Western Cape Province, by JOSÉ MANUEL DE PRADA-SAMPER. 2019. *The Digging Stick*, Volume 36, Number 1, pp. 5–9.

Sympathetic magic and 'death-trance potency' in relation to prehistoric art in southern Africa, by FRANCIS THACKERAY. 2019. *The Digging Stick*, Volume 36, Number 1, p. 1.

From top down under: new insights into the social significance of superimpositions in the rock art of northern Kimberley, Australia, by ANA PAULA MOTTA. 2019. *Cambridge Archaeological Journal*, Volume 29, Number 3, pp. 479–495.

Rock metamorphosis by kinetic energy, by ROBERT G. BEDNARIK. 2019. *Emerging Science Journal*, Volume 3, Number 5, pp. 293–302; DOI: 10.28991/esj-2019-01192.

A new rock art discovery in Spain, by JON HARMAN. 2019. *Bay Area Rock Art News*, Volume 36, Number 1, pp. 1–5.

Cupule isolée, groupe de cupules isolées**, plage de cupules juxtaposées et chevauchantes, nuage de cupules** éparses **sur les roches gravées de la region du mont Bego. Représentation de l'amas stellaire des pléiades**, by HENRY DE LUMLEY, ANNIE ECHASSOUX, ODILE ROMAIN, LYDIA ZOTKINA, STÉPHANE CANTON, ELISABETH FAUQUEMBERGUE, CÉDRIC FONTANEIL, FRANCE HUCK, YOUNG HEE PARK, GUY POLLET, MASSIMO RICCI and ANDRÉ VIARD. 2019. *L'Anthropologie*, Volume 123, Number 3, pp. 485–667.

Female initiation, water and San rock art, by RENEE RUST. 2019. *The Digging Stick*, Volume 37, Number 2, pp. 5–11.

Elephanthropes of the Cedarberg, by ANDREW PATERSON. 2019. *The Digging Stick*, Volume 37, Number 2, pp. 19–24.

Rice ecology and ecological relations: an ontological analysis of the Jiangjunya masks and crop images from China's east coast, by FENG QU. 2019. *Cambridge Archaeological Journal*, Volume 29, Number 4, pp. 571–592.

Daraki-Chattan rock art constrained OSL chronology and multianalytical techniques: a first pilot investigation, by I. LIRITZIS, R. G. BEDNARIK, G. KUMAR, G. POLYMERIS, I. ILIOPOULOS, V. XANTHOPOULOU, N. ZACHARIAS, A. VAFIADOU and M. BRATITSI. 2019. *Journal of Cultural Heritage*, Volume 37 (May–June), pp. 29–43; DOI: 10.1016/j.culher.2018.09.018.

Levels of narrativity in Scandinavian Bronze Age petroglyphs, by MICHAEL RANTA, PETER SKOGLUND, ANNA CABAK RÉDEI and TOMAS PERSSON. 2019. *Cambridge Archaeological Journal*, Volume 29, Number 3, pp. 497–516.

Two new rock painting sites in the Mpumalanga highlands, South Africa, by DAVID G. PEARCE, KIAH JOHNSON, KAYLA MACCONACHIE, BRENT SINCLAIR THOMSON and AMORET VAN ROOYEN. 2019. *South African Archaeological Bulletin*, Volume 74, Number 209, pp. 42–45.

Compressive-tensile rock markings, by ROBERT G. BEDNARIK. 2019. *Geological Magazine*, Volume 156, Number 12, pp. 2113–2116; DOI: 10.1017/S0016756819001079.

The earliest petroglyphs in the world, by ROBERT G. BEDNARIK. 2019. In M. A. Devlet, G. G. Korol, O. S. Sovetova and E. A. Miklashevich (eds), **Изобразительные** *и* **технологические традиции ранних форм искусства**. **Памяти** *Е. Г.* **Дэвлет** (*Iconographic and technological traditions in early forms of art. In memory of E. G. Devlet*), pp. 85–100. Proceedings of the Siberian Association of Primitive Art Researchers, Vol. XII, ISBN 978-5-202-01433-8. Kuzbassvuzizdat, Kemerovo.

ORIENTATION

ICRAD invites data deposition

By ROBERT G. BEDNARIK

The International Centre of Rock Art Dating was established in 2016 at Hebei Normal University in Shijiazhuang, China. One of its roles is to develop a comprehensive archive for global information on all direct rock art dating projects and results. For this, it needs extensive international collaboration. Bearing in mind that direct dating of rock art was only introduced in 1980, it is entirely possible to create a comprehensive register of all such work. Two relatively complete records have already been published, one covering the years from 1980 to 1995 (Bednarik 1997), the other of English language reports up to about 2011 (Rowe 2012).

Readers of *RAR* are invited to contribute to this effort in two ways: by checking these two lists and adding any missing entries; and by providing bibliographical references of any direct rock art dating reports published from 2011 to the present time. Please begin by accessing the two published lists to check which projects have been missed in them. Bednarik (1997) and Rowe (2012) are both available in the AURANET Library at

http://www.ifrao.com/auranet-library/

Please scroll down to 'D. Rock art dating' where they are listed as the first two entries. Please check both lists to establish what published direct rock art dating projects or results have been overlooked in their compilation and report the relevant bibliographical details either to Prof. Tang Huisheng, the Director of ICRAD (*tanghuisheng@163.com*) or to me (*robertbednarik@hotmail.com*). 'Direct dating' of rock art refers to the estimation of its age by a direct physical relationship of the petroglyph or pictogram and the dating criterion, governed by testable (falsifiable) propositions concerning that relationship (Bednarik et al. 2010). It excludes age-related claims based on traditional approaches, such as assertions of style, iconography or technique and is characterised by a preference for testable experiments.

We thank you for helping to create the archive of ICRAD, which will be a precious asset to the discipline of rock art research. The archive will eventually be placed on the Web for all to use, and all who have contributed to it will be acknowledged.

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Rowe, M. W. 2012. Bibliography of rock art dating. *Rock Art Research* 29(1): 118–131.

RAR 37-1329

Professor Tang Huisheng, Director of ICRAD, at the entrance to his office.

A NEW TRANSDISCIPLINARY JOURNAL

POLYGRAPHE(S), Mixed Approaches to Graphic Acts is dedicated to graphic acts in their diversity of forms, places and time. Indeed, considering the graphic action goes beyond the formal features of the trace and questions: a social practice with the issues of space, time, media and social negotiation that go with it. *POLYGRAPHE(S)* comes from our willingness to make different disciplines (archaeology, anthropology, sciences of education, design etc.) meet and interact on a research field with high heuristic power: figurative communication. Dedicated to a broad topic in Humanities, this journal aims to be a new space for transdisciplinary and transcultural dialogues, with the spatial, chronological and socio-cultural contexts of production and reception of the images put at the heart of the exchanges. The meanings, forms, media and gestures of graphic act will be considered. Contents are organised in four sections:

Dialogues refers to original cross-views of at least two different disciplines on a specific topic which can address scientific issues or be based on field experiences, a recently released book, exhibition, documentary etc.

Points of view gathers several view-points of single disciplines on the same topic.

Carte blanche is more specifically, but not exclusively, intended for short contributions from students or young researchers on diverse graphic acts-related studies

Proceedings lists on-going and forthcoming publications, films, exhibitions and seminars.

Topics of the first issues:

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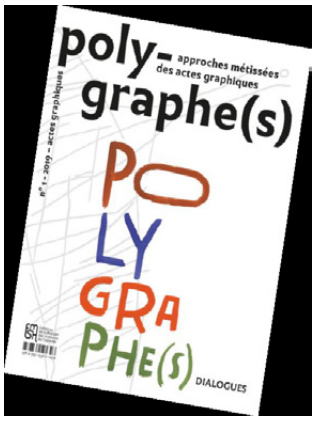
Director of Publication: Philippe Hameau

Members of the Editorial Board and founders of the journal:

Camille Bourdier, Francesca Cozzolino, Claudia Defrasne, Philippe Hameau, Delphine Leroy and Eric Robert

POLYGRAPHE(S) appears in print and electronic format and is published by the Fondation de la Maison des Sciences de l'Homme in Paris. Contributions are invited in French, English and Spanish. Here is the Table of Contents of the second issue (2020):



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Philippe Hameau et Florent Sarnette: *En prison, marquer les murs ou le corps comme acte de liberté*

Mônica Macedo-Rouet et Mary-Anne Britt: *Navigation, argumentation et persuasion dans la vulgarisation de la science en ligne*

Points de vue

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Morgane Uberti: *Un temps nu. Dater comme acte (épi)graphique per se?*

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Clément Birouste: *Chasse et figuration des animaux dans le totémisme et l'animisme: le cas des propulseurs ornés du Magdalénien*

Comptes rendus

Gilles de Rapper (ouvrage): Guy, Emmanuel. 2017. *Ce que l'art préhistorique dit de nos origines*. Paris, Flammarion.

Philippe Hameau (ouvrage): *Appréhender diversement les graffitis muraux*

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