BRIEF REPORTS

Domesian petroglyphs at Khomeyn, Markazi Province, Iran

By SAEED RAHIMI, ZEYNAB KHOSRAVI and KARIM HAJIZADEH BASTANI

Rock art, which can be found in almost all parts of the world, is a source of valuable information about the human thought process. Pour Bakhshandeh (1997) conducted the first research on petroglyphs in Farahan, Markazi Province. Morteza Farhadi has also studied sites in Markazi Province, including Teymareh (Farhadi 1998). From 2007 to 2016, Mohammad Naseri Fard researched the petroglyphs of Markazi Province and elsewhere in Iran (Naseri Fard 2007, 2016). In 2020, Saeed Rahimi, as the subject of his dissertation, studied and analysed the newly discovered petroglyphs of Arak and Shazand, Markazi Province (Rahimi 2020).

The Domesian petroglyphs extend over 2 km in the lower parts of foothills, 3 km south-east of Domesian village near Khomeyn, Markazi Province of Iran. The Domesian petroglyphs are located at an altitude of 2060 m a.s.l. and on the north-east side of Japlegh plain. Most of this vast plain is in the political territory of Lorestan Province, and a small part of it is part of Markazi Province. This small part is the most important catchment area of the Japlegh plain (Fig. 1).

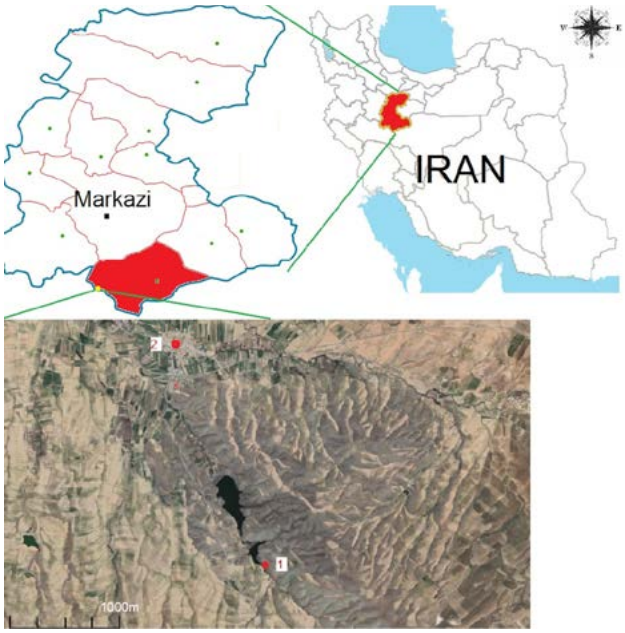

Figure 1. *Location of Domesian petroglyphs within Iran, showing the locations of (1) the petroglyphs and (2) Domesian village.*

The region under study is located in the south of Markazi Province, where the Alborz and the Zagros mountains connect, leading to high floral variation in the region (Abdi 2008: 54). The climate is cold and alpine because of located in the Zagros mountains and its proximity to Oshtorankooh, the region's highest peak (4150 m high). About 335 animal species live in this area, including deer, wild goat and sheep, jackal, wolf, boar, fox, rabbit, leopard, and various birds, reptiles and fish (Rahim Pour 2005: 21).

Next to this site, a water dam has been constructed to supply agricultural water to Domesian village and Ghasem and Javadiyeh farms, and some of the motifs of the site have been submerged in it. In winter, when snow and rain increase, the water of the dam rises and more motifs become submerged. Another danger to the petroglyphs is high humidity due to proximity to the reservoir, which causes lichen growth on the petroglyphs. The production of graffiti by passers-by is another problem of this site, distorting the motifs. The rocks of this site seem to be phyllite. Altogether, 102 rocks with motifs have been identified above the water level, with more than 400 motifs. The smallest motif of the site is about 7 cm and the largest is 45 cm. The motifs include various zoomorphs (feline, canine,

Figure 2. *Zoomorphs and anthropomorphs on the first panel of Domesian.*

Figure 3. *Anthropomorphous and other motifs on the second panel of Domesian.*

Figure 5. *Motifs on the fourth panel of Domesian.*

goat-like, horse-like) and anthropomorphs (on foot, on horseback, 'hunter with weapons' such as presumed bows, swords, lasso). Out of 102 identified panels, six are introduced and described here.

The first rock art panel is 100 cm wide and 130 cm high, comprising ten motifs produced on the rock's south side, which we perceive subjectively as animal and human motifs (Fig. 2). The second panel is 200 cm wide and 130 cm high and bears 19 motifs. Anthropomorphous and 'animal' motifs are engraved on this rock in a semi-naturalistic style. Anthropomorphs seem to be depicted riding horse-like animals or showing open arms (Fig. 3). The third panel is 90 cm wide and of 100 cm height, facing east and inclined to the sky, bearing seven horse-like and goat-like motifs (Fig. 4). The fourth panel is 90 cm wide and 150 cm high and bears 16 motifs facing south that include for us incomprehensible and goat-like motifs (Fig. 5).

The fifth panel is 110 cm wide and 90 cm high and bears 11 motifs includes 'incomprehensible' and goat-like images produced on the rock's east side (Fig. 6). The sixth panel is 40 cm wide and 40 cm long, facing the sky, comprising 'human' and 'animal' motifs. On

Figure 4. *Horse-like and goat-like motifs on the third panel of Domesian.*

Figure 6. *Incomprehensible motif and goat-like image on the fifth panel of Domesian.*

the southern part of the rock, graffiti has been written (Fig. 7).

The technique applied in producing these petroglyphs is pounding and, in a small number of cases rubbing. In the discussion of site historiography, these motifs cannot be attributed to a specific period because they have been produced in several periods. Due to their longevity, the depth of the old motifs became level with the main surface of the panel, and the colour of the motifs became the same as the panel, whereas newer motifs have a brighter appearance and greater depth. The rock motifs of Domesian are very similar to Lurestan (Rahimi et al. 2021), Khomeyn (Naseri Fard

Figure 7. *Anthropomorphous and zoomorphic motifs on the sixth panel of Domesian.*

2016) and Golpayegan (Jamali 2015).

Finally, it is hoped that with the publication of this paper, the rock art motifs of this site will be introduced to rock art researchers, and if the motifs of this site are destroyed in the future, a study of them will have remained.

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RAR 39-1390

Oxalate issues: comments on 'Dating correlated microlayers in oxalate accretions from rock art shelters: new archives of paleoenvironments and human activity'

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Introduction

Here we comment on the dating method recently reported in Green et al. (2021a) in *Science Advances* to caution against its uncritical use to date oxalate-rich mineral accretions and associated rock art. We point out the unexplained inconsistencies between the ages of carbon in the chemically extracted 'oxalate(s)' fraction versus the residues, as well as the unresolved assumption of a microorganic origin regarding the source(s) of carbon in the oxalate minerals. We also suggest that the chemical pretreatment used to separate the fractions could incorporate carbon from sources unrelated to the deposition of these accretions and associated art.

Green et al. (2021a) have reported the application of a 'novel' method to date oxalate-rich accretions in the Kimberley region of Western Australia. They claim that the method can be used to accurately date associated rock art, and that the accretions are a 'new' proxy for palaeoenvironments. The method involves identifying layered oxalate-rich mineral accretions, micro-excavating a series of oxalate-rich layers and chemically separating and radiocarbon dating the 'oxalate' and residual fractions within the micro-excavated layers (aliquots).

Carbon of uncertain origin

The radiocarbon dates from the 'oxalate' fractions are said to represent the age of deposition of the oxalate minerals because of their presumed microorganic origin (and unique atmospheric CO_2 fixation pathway) (Green et al. 2021a, 2021b). This is highly problematic because even if a microbiological pathway was demonstrated (it is not), identifying the microorganisms is essential because certain organisms are known to incorporate carbon from several sources, including old and refractory carbon unrelated to the depositional event. This would result in the considerable overestimation of the ages for the oxalate-rich layers in the mineral accretions. Examples of these include the microbial assimilation and fixation of fossilised organic material in sedimentary rocks and the microbial fixation of carbonate-derived CO_2 (e.g. Petsch et al. 2001). In the scenarios presented in Green et al. (2021a, 2021b) we cannot exclude the possibility that unidentified microorganisms could potentially interact with calcium carbonate identified as 'windblown particulate matter'. Moreover, it is apparent, that the incorporation of

refractory carbon into oxalate accretions is not limited to ~255 years old aeolian pyrogenic carbon (Finch et al. 2019) as suggested by the relatively old ages obtained for some residual carbon compared to the age of the corresponding 'oxalate' fraction (up to 19 805 years older) and these could interact with unidentified microorganisms resulting in age overestimation.

These issues have long been recognised (Hess et al. 2008; Russ et al. 2017) and have hampered the use of oxalate crusts for rock art dating and palaeoenvironmental reconstruction. Unfortunately, Green et al. (2021a) neither address the issues of oxalate formation pathways, nor provide solutions to identifying microorganisms in the mineral accretions. In a separate, contemporary publication, the 'probable mineralised structures' of unidentified microorganisms were imaged by Green et al. (2021b) in only three or four of 77 sampled oxalate accretions with no characterisation of the microbial communities. In the *Science Advances* paper, the authors also report that the residual fraction 'consist of inert solids, such as silica, pollen, charcoal, and non-reactive residual organic matter, suggested to originate from older materials, incorporated into accretion layers via dust and aerosols during growth intervals' but this is not supported by any observations or analysis presented in this study. Moreover, measured $\delta^{13}C$ values are only available for 19 of the 50 dated subsamples, rendering this technique unsuitable to infer a carbon source. Green et al. themselves acknowledge that 'identifying the source of the dated carbon in such oxalate minerals requires an understanding of their formation mechanism and is essential in relating radiocarbon dates to the time of mineral formation, which may, in turn, be related to associated rock art', yet, their research (published in both *Science Advance* and *Geoarchaeology*; Green et al. 2021a, 2021b) is based on unsubstantiated assumptions about the source(s) of carbon in the oxalate minerals in their samples and the assumed composition of the acid-soluble fractions.

Unexplained inconsistency between the ages of carbon in the oxalates versus the residues

It is said that 'radiocarbon dates are presented for both the calcium oxalate and residual fractions of 28 subsamples from 14 accretions' but in reality, only 15 subsamples have both oxalate and residual radiocarbon ages. It is also noteworthy that only four accretions (crusts J030, H653, H076, J040) present a sequence of more than two subsamples getting progressively older 'oxalate' median ages with depth and this is used to justify a closed system condition for carbon in all samples and the efficacy of the method. The authors stipulate that 'sequences of up to four radiocarbon ages (per accretion) were produced for acid-soluble fractions' but in fact, only three subsequent radiocarbon ages are presented for crusts J030, H076, J040 because two samples for each crust are 'milled from a single layer' (crust H653 also has a sequence of three subsamples). There are also significant unexplained differences in ages (up to ~3000 years) between these sets of samples from the same layers, and these differences are particularly important if those accretions are to be used on the timescale of palaeoenvironmental changes. Moreover, only two of these sequences have more than two radiocarbon dates on the associated residual fractions (crusts J030 and J040) and those stay approximately constant (average 18 977 years cal BP for J030 and 18 044 cal BP for J040). In some samples, the differences between the residual and 'oxalate' fractions can be up to 21 020 years younger and 19 805 years older. For sample H076, a residual age of 7590 years cal BP is sandwiched between 'oxalates' dates of 13 370 and 27 690 cal BP. For sample H204, the two subsamples are from the same stratigraphic unit but have residual ages of 8950 and 19 060 cal BP. Unfortunately, no adequate explanations are provided for any of these significant discrepancies, except for when a residual radiocarbon age is substantially younger than the ages of the corresponding and subsequent 'oxalate' fractions (indicating an open system for carbon).

Possible issues with the chemical extraction

The chemical extraction method targeting the oxalates is not detailed by Green et al. (2021a) as the authors have used a method developed by Jones et al. (2017). The powdered oxalates are essentially dissolved in a 6N HCl solution at 60°C for one hour and the radiocarbon measurements are performed on the supernatant and the undissolved residues. This pretreatment method is more aggressive than the one developed by Gillespie (1997) and adopted by Watchman et al. (2005), using 2M sulphuric acid and 0.1 M potassium permanganate at 50°C to specifically oxidise oxalates prior to dating. One potential issue with such vigorous dissolution methods used by Green et al. (2001a) is the possibility of dissolving carbon from other (non-oxalate) sources. It is noteworthy that the composition of the oxalate-soluble fraction was not monitored by Green et al. (2001a) in comparison to previous studies (Steelman et al. 2002; Russ et al. 2017). The integrity of the method used by Green et al. (2021a; also used by Jones et al. 2017) has never been tested by repeating the acid leach for additional hours and measuring their radiocarbon ages to see if longer acid dissolution continues to aggregate carbon, possibly changing the fractions and the age determinations made from them.

Conclusion

The radiocarbon dating of oxalate accretions has long been recognised as a potentially revolutionary method to accurately date rock art where an association between the accretion and the production of imagery/markings can be established (Watchman 1987; Russ et al. 1996). The laminated stratigraphy of oxalate accretions has also long been identified as a

potential palaeoenvironment archive (Russ et al. 2000; Watchman et al. 2001). Several unresolved issues such as a supposed microbiological pathway and a unique atmospheric source of carbon that is related to their formation have constrained its use. Unfortunately, Green et al. (2021a) do not adequately address, nor provide any solutions to these issues. Instead, they report a series of unexplained discrepancies between the dated fraction of 'oxalate' fractions and residues and interpret these based on a series of unsubstantiated assumptions about the origin and stability of the oxalates in the mineral accretions. For these reasons, we caution against the uncritical application of this method for rock art dating and palaeoenvironmental reconstructions.

Acknowledgments

Green et al. were invited to respond and debate the issues raised here. No reply has yet been received by *RAR*.

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RAR 39-1391

The travertine hand and footprints at Qiusang, Tibet

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The proposed sensational Middle Pleistocene dating of the hand and footprints found at the Qiusang site in Tibet has involved a method that numerous authors have considered unsuitable for poorly crystallised reprecipitated carbonate deposits. This is an open-air site, and precipitation should be expected to severely affect its travertine's U–Th ratio, especially by removing uranium. Such an open system inevitably results in age estimates that are significantly greater than the precipitate's actual age. There is no evidence that hominins occupied the central Tibetan Plateau at the time proposed, and none of modern humans in Eurasia, yet the footprints are of Moderns. Recent U–Th analysis applications in China have shown that results from speleothems and similar deposits can be as much as a hundred times or so too high. They have also confirmed that multiple samples from the same deposit may provide vastly different age estimates. Moreover, sample splits processed by different labo-

ratories yielded entirely different results.

This paper responds to the article by Zhang D. D. et al. (2021), reporting the discovery of a panel of ancient hand and foot impressions on mineralised travertine at the Qiusang Hot Spring site in central Tibet. Dating the travertine unit to the late Middle Pleistocene, the research team confidently announced that the Qiusang site presents the earliest known rock art in the world and the first evidence of hominins on the Tibetan Plateau (previously attributed to the Nwya Devu site dated to ~40–30 ka BP by OSL; Zhang X. L. et al. 2018; Zhang J.-F. and Dennell 2018). The eighteen authors of this new report have provided a comprehensive description and discussion of this fascinating phenomenon. They carefully explain their reasoning, and we emphasise that we accept most of their propositions. For instance, we agree that the traces on the Qiusang panel were made by pressing hands and feet into the soft medium and were not created with tools. We also concur that the marks were made deliberately, so they are a form of palaeoart. Moreover, we have no hesitation in accepting that juveniles made them. Children have been responsible for much rock art production, and specifically for most body part impressions found on soft or formerly soft cave deposits in Europe and Australia (Bednarik 2008). We also concur that the markings were made when the travertine was soft and still being precipitated, so they should be of an age matching that of the medium.

We disagree with these authors in just one detail: we question the basis of their claim that the rock bearing the ichnological traces is of the Middle Pleistocene and in the order of 169 to 226 ka old. The uranium-thorium method they used to arrive at this result has been shown numerous times to provide unreliable Pleistocene age estimates of reprecipitated carbonate deposits. Carbonate speleothems, formed by a similar process, have in all cases yielded significantly more recent radiocarbon ages than the U–Th dates when these were checked (Bednarik 1984, 1997, 2001; Bard et al. 1990; Holmgren et al. 1994; Labonne et al. 2002; Plagnes et al. 2003; Taçon et al. 2012; Quiles et al. 2014; Sanchidrián et al. 2017; Valladas et al. 2017). While the ages obtained by the two methods have usually matched reasonably well if they were of the Holocene, the U–Th ages of Late Pleistocene samples increase exponentially with age until they can be many times their actual ages (Bednarik 2022: Fig. 1). In the worst of the many cases reported before the Qiusang example, a reprecipitated carbonate film that can only be a few centuries old at most provided a U–Th raw age of 134.6 ka, i.e., hundreds of times its realistic antiquity (Tang et al. 2020).

The stochastic distribution of the dates suggests that the distortion is not systematic but seems to be a random function of taphonomic processes distorting the U–Th ratios. Most notably, U is soluble in water and can be readily removed when the deposit is subjected to moisture. This occurs with speleothems frequently and even more so with travertine fully exposed to precipitation. Travertines are not dense crystalline formations like stalagmites; they have varying degrees of porosity which assists the reaction with carbonic acid, reverting to their soluble (bicarbonate) state. In addition to effecting U depletion, moisture may also remove or add detrital Th; there may be a transformation of aragonite to calcite, or components of the support rock may contaminate samples.

Two other factors are of even greater concern. First, the significant variations of U concentrations in coeval calcite skins, even on a millimetre-scale, can be >100% (Hoffmann et al. 2009; Tang et al. 2020). Samples taken from the same deposit, only millimetres apart, can produce significantly different results. Second, a recent blind test of the method's reliability by submitting several split samples to two U–Th laboratories yielded entirely different results for all samples (Tang and Bednarik 2021). One of these two laboratories has provided the analyses for Zhang D. D. et al. (2021). If we know and expect that multiple samples taken of the same deposit generate such disparate analytical results, and if, in addition, we discover that different laboratories can report vastly different findings from the same samples, using even entirely different reporting protocols, such outcomes are dubious.

However, there is still one more impediment to accepting U–Th 'dates' from non-crystalline reprecipitated carbonates. Science demands the testability of falsifiable propositions, yet those concerning the age of samples sacrificed during their analysis are not testable; the procedure cannot be repeated. Another sample can be secured adjacent to the first, but as noted, it may provide a very different outcome. An example of a rock art dating method offering full testability that has been extensively applied in China is microerosion analysis (e.g. Tang et al. 2017, 2018, 2020; Jin and Chao 2019, 2020, 2021). The micro-wanes measured can be re-located by any analyst, even centuries from now, and can be re-measured. Conversely, the dating of rock art by physical intervention, especially by methods of debatable reliability, needs to be discouraged (Tang et al. 2020; Tang and Bednarik 2021).

Because of these many concerns about the credibility of the U–Th method when applied to porous carbonates, an intensive debate about it has developed since 2012 (Bednarik 2012, 2017; Clottes 2012; Pons-Branchu et al. 2014; Sauvet et al. 2015; Aubert et al. 2018; Pons-Branchu et al. 2020; White et al. in press) — although the problem has been known for about forty years (Bednarik 1984). The sensational data reported by Zhang D. D. et al. need to be considered in the context of that debate. A proposition of Middle Pleistocene rock art in Tibet is extraordinary, and it requires correspondingly extraordinary evidence. However, the results of a controversial application of U–Th analysis of porous reprecipitated calcium carbonate is the only support it has. As the authors correctly note, the hand and footprints at Qiusang were made

by 'modern' humans, yet they contradict themselves by proposing that the tracks derive from Denisovans. Whilst the detailed physiology of these robust humans is not yet available, they were likely to have had thicker fingers, and their feet would have also differed from those of gracile hominins. Their footprints would likely have resembled those of *Homo sapiens neanderthalensis*, so the reported specimens could not be of the Middle Pleistocene in any case.

The age of the travertine at Qiusang could easily be checked by ^{14}C analysis, but like their colleagues working in Spanish caves (Pike et al. 2017) committed solely to U–Th, Zhang D. D. et al. (2021) might reject that option. It is correct that the accuracy of radiocarbon essays can also be challenged for several reasons (Bednarik 2001), but the argument that when the results of the two methods differ significantly, the ^{14}C dates must be wrong is logically flawed. The chronology of the Upper Palaeolithic is primarily based on that method and is not likely to be entirely false. Moreover, the authors who presented the Spanish U–Th 'dates' aspire to demonstrate that their data prove Neanderthals made the cave paintings. However, if we discount the radiocarbon dates for these robust humans post-MIS 5 because they are 'wrong', we lose all justification to attribute the paintings to them.

The sensational claims that the oldest known rock art in the world has been discovered in central Tibet — a region that is not even known to have been occupied by humans at the time proposed — is based on nothing other than a controversial dating method (specifically the application of U–Th analysis to porous carbonates) that many dozens of authors have rejected over the past decade. We suggest that ^{14}C age estimates from the same travertine would help resolve the issue. Despite issues such as potential dead carbon contamination, recent ^{14}C inheritance or non-atmospheric components of dissolved inorganic carbon, it offers a significantly better-proven approach to estimating the age of porous reprecipitated carbonates. Another possibility would be to try determining the detrital contamination, possibly using isochron methods. We especially suggest the need for core-sampling the Qiusang travertine to determine its variability of apparent age relative to weathering zones, which would clarify the degree of uranium leaching. Conversely, we should point out that the term 'parietal art' in the title of the target paper is misleading: this word denotes cave art ('parietal' refers to a cavity wall, as in anatomy), whereas Qiusang is an open-air site.

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RAR 39-1392

RAR REVIEW

Chaturbhujnath Nala. A magnificent rock art gallery in India, by GIRIRAJ KUMAR. 2022. Sharada Publishing House, Delhi, 224 pages plus 52 pages of monochrome plates and 30 pages of colour plates, hardcover, ISBN 978-93-83221-37-0. To order the book one can visit the publisher's website at *www.sharadabooks.com*.

As Rakesh Tewari notes in his Foreword, this attractively produced book introduces one of India's most important rock art site complexes. Chaturbhujnath Nala comprises several concentrations of rock painting sites, scattered along both sides of the Nala's watercourse and forming galleries of numerous sandstone rockshelters that contain more than 2500 recorded motifs. Prof. Giriraj Kumar has studied this mostly well-preserved rock art corpus since 1978, a year after Ramesh Kumar Pancholi first reported it. This volume is the main result of his long-term commitment.

The book is well structured, with its seven descriptive chapters covering 124 pages, followed by a 90-page Appendix that lists the principal motifs in tabular form. A Bibliography, Index and 82 pages of black and white and colour plates complete the volume. The well-written and thoroughly referenced text begins by describing the locality and its cultural background, its geology, climate, flora and fauna and then focuses on the region's Stone Age. The area's Chalcolithic sites are also mentioned, and the first chapter then ends with an introduction to the region's extensive rock art. The important Palaeolithic cupule site Daraki-Chattan is located nearly 32 km southeast of Chaturbhujnath Nala.

The second chapter creates a background to the study of this site complex by describing the history of rock art research, specifically in India. It soon homes in on the author's excavations and cupule replication work at Daraki-Chattan and the sustained efforts of determining the age of the petroglyphs in the cave. This leads to a consideration of the research conducted at Chaturbhujnath Nala over the past 45 years. Kumar has recorded many stone arrangements in the area, also Lower Palaeolithic stone reduction sites, Middle Palaeolithic surface finds and microlithic tool scatters.

The next chapter addresses the generic issue of determining the age of rock art, again with an emphasis on Indian developments. The author tries to present a fresh attempt at a chronological classification but essentially repeats previous opinions, which were mainly guided by iconographic interpretation. He divides Indian rock art into two main phases: before and after the domestication of cattle. Chapter 4 presents the principles of documentation methodology applied to his project. This includes the division of the corpus into site clusters or Groups. Kumar then defines in detail how he detected the developmental stages in the rock art. Accordingly, the earliest pictograms at Chaturbhujnath Nala are of the Mesolithic, followed by Metal Ages. Historic rock art completes the ensemble, and Kumar also mentions that shepherds living in the area before 1980 had executed some of the rock art in Group A of rockshelters near the temple. Essentially, the site's rock art is divided chronologically based on its perceived iconography.

In Chapter 5, Kumar presents an 'analytical study' of the more than 2510 painted figures and compositions (plus 15 petroglyphs) he has recorded. This is by far the longest chapter (52 pages, precisely the total of the previous four chapters) of the book and is based on the author's preferred interpretation of the rock art's iconography. The various statistical analyses in the form of twelve histograms and six tables reflect the same personal preferences for the objects and activities recorded. For instance, for Period-II, Part-1, we have the activities of 'animal domestication/cattle raising, human killing/war aftermath, emotional scene, dancing, erotic rituals, cattle riders, horse riders, elephant riders, camel riders, chariots, procession/celebration, boat sailing, ploughing, weightlifting, string jumping and fleeing/kidnapping'.

Chapter 6 is titled 'Artistic appreciation'. In it Kumar emphasises that the six criteria prescribed by Yashodhara to appreciate paintings ('the knowledge of appearance of forms; correct perception and measure; action of feeling or forms; infusion of grace, artistic perception; similitude; and artistic manner of using brushes and colours') cannot 'be applied completely to appreciate rock art'. Therefore, the author evaluates the Chaturbhujnath Nala rock art based on the parameters of the nature and presumed antiquity of rock art, freedom of the artists to use the rock surface and the execution of the presumed compositions, keeping in mind the superimpositions of the figures and exfoliation of the rock surface.

The seventh chapter is of particular relevance. It addresses the continuity of the creative traditions. Many of the tribal societies of India, including in the Chaturbhujnath Nala region, continue to practise

painting and drawing on the walls and floors of their houses. Kumar provides important ethnographic information on these enduring traditions, still found in many parts of India. As in various other parts of the world, domestic animals, specifically cows and bulls, are highly valued, and on certain festive occasions, they are also decorated or painted. It would be surprising if none of these practices was reflected in the rock art of recent centuries or millennia.

In the final chapter, 'Conclusions', Kumar reminds us that Chaturbhujnath Nala is named after the temple of the same name on the edge of the Nala, which no doubt has added considerably to the sacredness and significance of the locality to the regional population. It dates from the 10th century CE, and a good deal of the nearby rock art may well postdate that time, judging from its often-excellent state of preservation.

The very substantial Appendix consists of a single table listing all the rock art recorded by the author. It follows the format of Chapter 5 essentially. The 82 pages of 290 monochrome and colour plates are of the greatest value. The extensive use of the IFRAO Standard Scale is most laudable because it facilitates the reader's appreciation of the vivid colours. Most of the colour images appear to have been colour-corrected, which is not seen often enough in rock art publications.

This book is one of the best and most comprehensive presentations of a major Indian body of rock art to date and, as such, belongs into the library of anyone seriously interested in that country's outstanding immovable cultural heritage.

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RAR 39-1393

A discursive review in COVID lockdown

Perspectives on differences in rock art, edited by JAN MAGNE GJERDE and MARI STRIFELDT ARNTZEN. 2021. Equinox Publishing, Sheffield, UK and Bristol, CT, USA. 475 pages, 224 figures (colour and black and white), tables, references. Hardcover, ISBN 978-178-179-560-6.

This is the third collection of essays resulting from ACRA, the Alta Conference on Rock Art, held in Alta, Norway, in 2015, as a collaboration between the Alta Museum and The Arctic University Museum of Norway (Tromsø). It is dedicated to Knut Helskog for his work on Alta rock art and his key role in establishing the museum and placing museum and rock art on the World Heritage List. (It may be worth recalling that Alta sites were discovered as recently as 1973.) If we may insert a personal note: the present reviewers find that even the pamphlet Guides they picked up in 1999 and 2010 had been put together by the same indefatigable promoter of Alta rock art. The origins of ACRA III and other relevant information are given in the useful editors' Introduction to the book, which illustrates the spectacular nature of the area with fine photographs (see especially the wide-angle shot by Karin Tansem). The production value of the book is high, not least for its usable index, many colour illustrations and general attractiveness. Presumably, Norway can afford it, though this collection, unlike its predecessors, is published in the UK and USA.

An early difficulty encountered by the editors is the agreed-on focus on time/space 'differences' in world rock art. Naturally, any survey of such art will reveal either similarities or differences or both, depending on reasons for emphasising one or the other or both. And indeed, many of the papers try to stay on the subject of difference, on and off. But it is bound to look a little forced, on occasion, probably because too much is expected of the idea of difference which is never precisely theorised. Perhaps the editors might have got someone to theorise it, in a post-poststructuralist academic climate (we are far from suggesting a return to Derrida). Or they might have contrasted it with a 'similarity' argument, conceivably based on any number of universalist epistemologies/methodologies, whether structuralist, phenomenological, neural-biological, perceptual-psychological, aesthetic (distinguished from culture-specific 'taste') or anthropological (in terms of hunter/fisher/gatherer lifeway). But perhaps this last option was covered in earlier volumes, and in any case, there are some anthropology-oriented papers, though they are in a minority, in this volume. There is certainly one structuralist paper on which we comment below. It may be that the collection makes a virtue of necessity, given that sociopolitical and theoretical issues seem to have been covered in earlier publications. Which perhaps simply leaves open the one option of diverse papers focussing diversely on rock art, necessarily exemplifying 'difference'—the difference in question being less a reflection, theorised or impressionistic, on the diversity of rock art than on the extreme specialisation of contemporary researchers, in short, the scarcity of people studying rock art at a less localised level. However, the other important consideration is the predominant focus on an archaeological approach to the subject. Research areas may vary, but the method is at least comparable, if not the same. We do not support the view that rock art study is a branch of archaeology, though there is no doubt that at this point in time, archaeologists have carried out much of the work, and to their credit.

Chapters in the book are arranged geographically, beginning with Fennoscandia, then, with a nod to Britain, moving on to South Africa and Australia, and concluding, briefly, with the USA. Fennoscandia covers Norway, Sweden, Finland and Russian Karelia. This takes up some half of the volume, which may be

no bad thing, given that the rock art is superb, even when painted reddish-brown, as it frequently is in Scandinavia, to the dismay of the research purist and the guilty satisfaction of anyone looking for an unproblematical photograph. (Of course, it may be that the petroglyphs were once so painted — a plausible idea, though there appears to be no evidence for it.) More importantly, northern European rock art remains less well known than it might be, and books on the subject are understandably difficult to find in English. At the same time, the focus is on northern Fennoscandia, the early hunter/fisher/gatherer context, quite unlike the age-of-metals imagery which dominates more southerly parts of Scandinavia. This northern context gives some scope for a vast research canvas of a circumpolar sort, with useful ethnographic assistance (as mined in a history-of-religion way by, for example, Mircea Eliade), which possibly explains the fact that some papers reference American commentary (Keyser, Whitley), and sometimes invite comparison with Canadian rock art.

Goldhahn's version of his conference keynote address (Chapter 1) sets the archaeology theme (in Chippindale and Taçon 1998 terminology, via a 'formal' methodology), noting how far back rock art research goes in northern Europe (for a detailed account, from Brunius and Holmberg to Almgren, see Skoglund, Ling and Bertilsson 2015). Goldhahn deals exclusively with excavations or analysis of their results at painting sites. Choosing 29 radiocarbon dates obtained from six of these, he aims to present a four-phase chronology of possible use, that is, cultural activities, including indications of periods of non-use ('intermezzi'). Of course, the association of depictions and material in the ground is an issue, though the suggestion is that in three cases, there may well be an association (the most dramatic one of these being the arrowheads at Flatruet plausibly fired at images on the rock wall). In general, Goldhahn is cautious about conclusions, offered as an overview of the current state of archaeological scholarship and proposed prolegomena to future directions. His reference to the matter of shoreline displacement is taken up more centrally by Helskog's following Chapter 2, an authoritative account of dating and sequencing the Alta petroglyphs. Fennoscandia is well known as the classic case study for isostatic uplift, which came about as a result of the postglacial retreat of a two-kilometre-thick ice sheet — the effect being the reverse of the substantial loss of landmass involved in the shift from Sahul to contemporary Australia. Fennoscandian shoreline variation is naturally complicated by topography, and, on a larger scale, by a return to flooding (the Tapes transgression) and subsequent regression, that is, renewed uplift (see Lødøen and Mandt 2005). It seems to be the case that Fennoscandian rock artists favoured locations close to water and in particular — and obligingly for archaeologists searching for maximum dates — locations at the shoreline between mean tidal levels and the outwash, above which rock surfaces would normally be covered over by growth or snow and ice. With reservations emphasised by Helskog, this means that the altitude of the art above sea level may be linked to a sequence in time. Based on such considerations, as well as radiocarbon dates from the Late Neolithic/Mesolithic to Iron Age derived from eight camps, settlements and petroglyph panels around Alta fjord, Helskog postulates an age of 5000 BCE for Alta's rock art. While he stresses that his combination of approaches, essentially a 'cable' argument (Wylie 1989; Chippindale and Taçon 1998), cannot directly associate settlement dates with the art, he believes he can arrive at a general chronology, most specifically in the light of shoreline data, and tentatively illustrate his chronology with boat imagery showing morphological variation relatable to altitude.

It may be misleading to overstate archaeological bias in this book. Both Goldhahn, as remarked above, and Helskog want to explore possible uses of rock art sites. Damm (Chapter 3) takes this up from the perspective of location, the landscape settings, both micro and macro, of sites, with a view to affordances for various uses, basically ritual/spiritual. Like the final chapter of the book, this involves identifying types of sites, such as public or private, liminal, associated with water etc. Unsurprisingly, the outcome is as varied as the program, though it has the advantage of linking Chapter 3 to the general 'difference' theme. At times worryingly close to the speculation cliff-edge, assuming spiritual power based on the character of a particular place (though, of course, the presence of rock art itself indicates significance), Damm refrains from specific conclusions, that is, what might actually have taken place at sites of a given type. She limits herself to a suggestive typology, having, on the basis of location-analysis alone, no evidence for further conclusions. The obvious thing to do here would be to turn to the rock art images, but this was ruled out from the start of the chapter. Comparable restraint, combined with an element of abandon, characterises Chapter 9, by Lahelma. The excitement is understandable: we are dealing with underwater archaeology in connection with rock art. (In Australia, the first underwater prehistory archaeology off the petroglyph-rich Murujuga coast took place as recently as 2020, with the first intertidal petroglyph discovered in the same area in 2021.) Lahelma reports on his dig in a Finnish lake directly below a painted cliff, offering as it were one possible example of Damm's speculations concerning site use. His focus is also ritual, specifically sacrificial. Even to rock art researchers interested in northern Europe, Finland is likely to be less known, so the material is welcome. There will also be interest in Lahelma's regular appeal to circumpolar connections (for most researchers, the immediate parallel with Finland will be Canadian cliff art in lakes, from Ontario to, for example, Sproat Lake on Vancouver Island). It may be that Lahelma's thesis, with assistance from

Figure 1. *Bergbukten I, Alta, Norway (photographs by authors unless noted otherwise).*

Finno-Ugric ethnography, of animal sacrifice on cliff-shelves, sacrificial remains having subsequently fallen into the water, is on the right track. Nevertheless, there are serious problems. While there are some ancient dates for the bones, the lakebed had been previously disturbed, and it is a moot point whether bones relate to the art, and if they do, whether they might indicate ritual sacrifice — even assuming this to have been practised in the area.

Two papers focus on the inescapable element of lifeway in Fennoscandia: seasonality. Gjerde's Chapter 4 posits it as a major factor in understanding northern rock art. There are, of course, seasonal animal, notably reindeer, migrations affecting human movement along given pathways, and Gjerde gives examples of rock art indicating seasonality, such as depictions of ski-travel or snowshoes, seasonal whaling, and reindeer corrals as a feature of autumn hunts, like others in this book appealing to circumpolar ethnographic information on hunting rituals. He makes the wry personal comment that his wish to visit sites in the winter made it difficult for him to obtain grants. Why get about in north Fennoscandia at its least inviting? The revealing points as to why are there for all to see: for a start the greater accessibility of some sites on lakeshores, when the water is frozen over; the sometimes greater visibility of Finnish cliffs and their paintings, in a white landscape. Commenting from the seasonal perspective on shorelines, he notes that these ('liminal') areas retain year-round usability, nicely illustrated with a single photograph (p. 101). Linge's Chapter 7 covers comparable ground in central Norway, with the example of fish migrations, those of seatrout and, more centrally, salmon. Rock art depicting salmon would seem to be rare in Scandinavia, though salmon must have been a key seasonal resource. Linge's stress is on the paintings at Honnhammar, suggesting plausibly that the salmon lifecycle, especially featuring the salmon run in spring/summer, may have established a pattern for human gatherings and ritual, as in the situation in the American northwest (the famous potlatch ceremonies).

Three chapters in this section of the book tend, in different ways, in the direction of anthropological or ethnographic information. Skandfer (Chapter 5), with some help from Mikkel Nils Sara, a Sámi reindeer owner in Alta, gives an outline of developing scholarly discourse about human-reindeer relations on the reasonable assumption that such relations must have been critical for ancient hunters — and bearing in mind that reindeer depictions constitute a third of Alta's petroglyphs (Fig. 1). She argues that the reindeer should be understood, in past Sámi culture, as part of the human social structure and not merely as a source of nourishment or even a significant symbol — as originally proposed by archaeologists. This would generally conform with, for example, Australian indigenous thinking. Thus even hunting is not a matter of overpowering the prey but of mutual obligation. The argument is partially in line with Fuglestvedt's in Chapter 8, though it might be said it goes against it insofar as it sees less of a mind-teasing problem in the human-animal relation. We will return to this shortly. Skandfer is particularly interesting when, on the basis of her informant's responses to the Alta images, she identifies specific aspects of the animals' appearance, that is, individual characteristics well understood by the Sámi — these individuating marks to be read descriptively rather than as signs (for some of us potentially functioning as Australian cross-hatch *rarrk*, or, if it comes to that, Scottish tartans). In this context, however, we defer to the Alta informant. At the same time, we wonder how Skandfer's concluding references to reindeer-elk hybrid imagery in rock art sits with the thesis of highly individualised, realist, depictions of reindeer. Like Chapter 5, Chapter 14, by Díaz-Andreu, Mattioli and Rainsbury, is largely ethnographic. Given that research on rock art has a 'visibilist' bias — understandable, of course — it is worth being reminded that soundscapes may be as important to rock art studies as the evidence of the eye. We think at once of publications relating to lithophones or depictions of musical instruments. This chapter aims to be more exhaustive, with a discussion of songs accompanying the production of art, resonant rocks, echo-locations. However, the argument as a whole seems to us insufficiently focused, in contrast to a similar piece by two of the authors in David and McNiven (2018). Several examples of singing in connection with rock art-making are dubious, which is not to say that people do *not* sing on these occasions. Neidjie may have heard mimis playing clapsticks in rocks, and mimis may be thought to be authors of some of the rock art — but the point being made is unclear. The same with the Bleek reference, even with (very) distant help from Lewis-Williams. Echoes in relation to rock art present greater difficulties: there are non-echo locations with rock art and echo-locations without it. We recall nothing of the sort at White Shaman but may

have missed something.

To return to the above mention of Chapter 8, itself anthropology-based, in a very particular way: it stands out in the collection not because, unlike most other papers, it is oriented to theory, but because it follows a universalist, Lévi-Straussian line. We are familiar with the ideas since we taught the material, on and off, for many years, as part of a course on philosophical hermeneutics. Leaving to one side whatever the perpetuators of mythologies may think or have thought (the structuralist idea of language rather than the writer as author of the text), Lévi-Strauss analysed myth-patterns, assuming a Jakobson/Saussure linguistics model of the human mind in which meaning is generated not by the thing but its relations. In the case of myths, meaning emerges from patterns of units or 'mythemes'. The conclusion is that mythical thought is an indirect way of attempting to resolve (unresolvable) contradictions in human life. Myths are 'good to think' narratives, inevitably binary-structured (often reducible to the classical anthropological binary of nature and nurture), for thinking through what bothers us, say the life/death binary. We suspect problems of this sort were less central to, for example, hunter-gatherer thinking than modern thinking in Paris (or Sydney). Be that as it may, Fuglestvedt opts to analyse northern rock art in terms of motif-units or 'motemes'. Her chosen binary is what she takes to be a troubling combination, in the 'Mesolithic mind', of similarity coupled with dissimilarity: animal society (reindeer pictured as a herd) and human society. The Lévi-Strauss question being: human or animal? Again, we are sceptical that this is the sort of question that might have worried the Mesolithic thinker. There would seem to be evidence, not least in Australia, that the hunter-gatherer lifeway postulates human and animal as interchangeable. Still, we accept the coherence of the case put in Chapter 8. If it allows for some wild speculation, it does so with sanction from an extraordinary intellectual. Incidentally, we also appreciate Fuglestvedt's clever, indeed witty, application of a Lévi-Straussian binary (similarity and difference) to the theme of 'perspectives on differences'.

The Fennoscandian section of the book concludes with three chapters dealing largely or entirely with Russian Karelia. The most detailed account of the area's impressive petroglyphs, their dating and on present knowledge probable chronology, is Lobanova's (Chapter 11), which stresses common elements (motifs and engraving methods) across Russian Karelia, in particular implying direct contact between the White Sea sites on the Vyg and those of Lake Onega further south. As elsewhere in Fennoscandia, the 'cable' argument involves a combination of isostatic and archaeological data. Lobanova's views go against Kolpakov's in Chapter 10, which does a count of hunting *scenes* (refreshingly, after the world's innumerable motif tallies), at several places from the Vyg and Kanozero to Onega, Alta, Nämforsen (known not least for Tilley polemics), and Vingen on a more southerly Norwegian coast, this last featuring no scenes at all (though according to Lødøen and Mandt 2005 it consists chiefly of huntable deer). Kolpakov sees no sign of contact between diverse sites. So the argument would seem to be very much about sameness versus difference. However, the two pieces are hardly comparable. For a start, the Lobanova one is considerably more ambitious in scope. Janik's Chapter 12, again using some archaeology in the context of isostatic information and focusing on the White Sea and Alta (where she relies on Gjerde and Helskog for dating), puts the case for the oldest whale hunt depiction at Besovy Sledki — at 5500 years. This would not necessarily be in the open sea, but it would be at substantial water depth (a key point backed by knowledge of the behaviour of whales in the region). On the rock art evidence, it would include the use of harpoon and float. This is paralleled with Alta depictions of deep-sea halibut fishing. Taking her cue from the earlier Alta dates, Janik suggests such hunting/fishing expeditions might go back as far as c. 7000 years. Forestalling scepticism, she points out that humans must have crossed the open sea to Australia at (a conservative date) around 50 000. So Mesolithic use of the sea should not surprise. It is a lively thesis and no doubt broadly correct. Though, referring back to Lobanova, we are unclear about the extent of disagreement over White Sea dates.

Two chapters in the collection may be discussed together since both are, to an extent, technology-led and concerned less with the rock art image than with its making. Tomášková (Chapter 18) is more theory-oriented. As a lithics specialist and questioning the easy distinction between art and technology or craft (theory and method; idea and materiality), she suggests applying Leroi-Gourhan's *chaîne opératoire* to rock art. That means approaching her chosen site in the Northern Cape, consisting of petroglyphs done in three techniques, in terms of their production, envisaging a conclusion about the diverse levels of skill involved in different petroglyphs. (Interestingly, she understands that the maker is also made via the operation: you make the image, but in the same act, the making transforms you — hopefully from an apprentice to an expert: an observation parallel to Marx's concerning the relation of worker and production). To test her thesis of 'mastery' (an unfortunate term, though prompted by the focus on technique), Tomášková puts her photographs through several digital processes, from photogrammetry to other software programs that will give her 3D models of petroglyph marks examinable in detail. Following which she concludes there are indeed learners and masters (or learners becoming masters?) in the art. This on a judgement based on consistency, precision, control of technique, in short, skill, as well as time-requirement. We have no problem with the theoretical side of the chapter and see the utility of digital programs. But we have two difficulties. The first

is the assumption that criteria for skill must be non-culture-specific. Of course, we universally want our tools and machines to 'work'. In particular, accepting no hard-and-fast distinction between technical objects and art ones, we want our art to 'work', say, ritually-religiously or aesthetically. But notions of required technique in given cultures will vary as much as taste in art objects (compare a fifteenth-century Italian art piece with a French Impressionist one). How sure can Tomášková be that her apprentices and masters are indeed that — in some universalist sense? The other difficulty we have is that even if one goes along with her argument, the result is hardly proportionate to the experiment. Even if she is right, it comes as no surprise that some operators are better than others.

The same problem arises with Jones and Guardamino in Chapter 13. Again, we have 'cutting-edge' digital techniques, including photogrammetry, this time brought to bear on three portable Neolithic objects with similar designs and from separate parts of the British Isles — these for comparison with passage-tomb imagery and rock art. There is an assurance that the rock art petroglyphs have been dated to the Neolithic. The result of the analysis is that computer technology reveals erasure and reworking on the portable objects and passage-tomb imagery, but not on the rock art. Actually, this last is disputed somewhat by ScRAP, the Scottish Rock Art Project. But even allowing the Jones/Guardamino point, it is a modest conclusion in the wake of all that effort. The authors want to make the idea of process central to their thesis, leading to a distinction between imagery as 'record' and as 'performance' — a reworking of motifs read as proof of 'performance'. From an Australian point of view, we can accept that art-making may be more significant than the resulting image, which may be repainted or have other images superimposed on it. Still, a reworking of itself is not clear evidence for the primacy of the process.

The three South African Chapters 15, 16 and 17, which follow, have a theoretical orientation in common (and Chapter 18, already discussed, also belongs to the same theory configuration). All want to critique more or less 'essentialist' archaeological perspectives in favour of the Derrida-derived buzz word 'difference' — which of course fits neatly into the theme of the 'Perspectives on differences' collection. Not that anyone here is by any means Derridan (though Morris quotes Gayatri Spivak on one occasion). Rather, all want to 'problematise' existing syntheses, in short, to write revisionist archaeologies of rock art. Morris (Chapter 16) focuses entirely on a (useful) documentation and critique of South African archaeological models, previously centred on (usually stylistic) variability as a manifestation of diversity of culture in space or geography — culture or its avatars read as entities or things-in-themselves, that is, as possessing 'identity' (with Willcox one of the major culprits here). In lieu of which Morris puts forward the Ingoldian alternative of 'process'. His preference is for the local, for the placed-ness ('ubiety') of sites chosen for unique combinations of factors, including individual or, at any rate, small-scale agency. Since he specifically aims at archaeological theory, we need not quibble that, strictly speaking, all rock art is an art of place, special in its relation to landscape. What he is asking for is recognition of particularity in the way archaeologists theorise sites. At the same time, he cannot avoid the philosophical dimension, even if that is not his chief concern. The discussion is about the relation of analysis and synthesis, part and whole, individual and universal, as the p. 295 Lowney quotation makes clear. Glossing over his critique of archaeology, he might at this point have noted that synthesis and analysis are not binary opposites but two sides of the same coin, both inevitably aspects of any thinking process. Or, putting it in terms of another relevant buzz word, that while a synthesis is, of course, a 'construct', its supposed opposite, the particular, is not in some unproblematical sense more 'real'. This recalls the science debate over which comes first, raw data or hypothesis. It is worthwhile to concentrate on the local aspect of rock art sites. However, if one wants to draw even the most minute conclusions about it, one must synthesise. In the end, the human mind is Aristotelian: it needs to classify. No doubt Morris knows this, though at times it seems to us he allows a slippage between the larger philosophical point and his disciplinary-political one.

Miraculously, all the South Africans in this volume, while in some sense post-Lewis-Williams, manage to retain something of the Lewis-Williams 'master narrative', to use Lyotard's expression. Laue (Chapter 15) wants regionalism or difference in San art to be reconceptualised, with a critique of past (lithic typology and style based) approaches analogous to Morris'. She examines flying figures — which most of us probably know via Pager's term *alites* (Fig. 2) — distinguishing between types and repositioning regional difference less in terms of 'communities of practice' (into which category Lewis-Williams appears to be placed) than of 'constellations of practice'. The aim is to replace cultural/social identity notions with something more fluid, constantly re-negotiated. Foregrounding 'practice' takes the emphasis away from ethnolinguistic syntheses, also recalling the Tomášková approach. Thus, while 'blurring boundaries' — another recognisable buzz phrase — Laue concludes that the diverse therianthropic images belong to separate practice communities but the same practice constellation. It might unkindly be said this is new wine in old bottles, namely that the constellation idea indicates a higher level of synthesis than previous ones. However, quite apart from the fact that of all wonderful San motifs (not forgetting the shaded polychrome eland), the flying therianthropic or hybrid being is perhaps the most seductive, it must be allowed that Laue puts her case with force matched

by nuance. Blundell's Chapter 17 is as anti-essentialist as any of the above, with the avowed intention of rethinking the relation of rock art images and cultural identity. He looks at three presumed non-San traditions in Nomansland (San art being defined as 'fine-line'), arguing they do not, as proposed in the past, represent degeneration of the fine-line. Rather, in dialogue with it, three successive phases of identity-formation initially copy San art and eventually contest it. Modest ethnography is put forward as evidence for the hypothetical group in question. We accept the idea of identity as a work in progress while pointing out that Blundell, like the rest of us, cannot do without the idea of a fixed identity, if only heuristically. His argument makes no sense without notions of 'San' and 'non-San' identities, as well as distinctions between styles, which are identified (sic) even as they are declared 'visibly different'.

Figure 2. *Brotherton Shelter, Didima, South Africa.*

This takes us to the heart of the revisionist dilemma, which we have on previous occasions summed up in the question: at what point does a collection of trees amount to a 'forest'? Of course, 'forest' is a synthesising construct, and one is free to say that it glosses over the radical diversity of trees. At one extreme, one can say each tree is unique and refuse any notion of a collection, let alone a forest. This is the paradoxical Derridan position, paradoxical because unless one is very clever, it prevents making any comment, even on the single tree, it too consisting of a unity-in-diversity. At some stage around the 1960s, Parisian intellectuals, turning to structuralism and poststructuralism (for some, 'postmodernism'), began to influence Anglophone institutions worldwide. We recall attending a 1978 literary-revisionist Melbourne conference. One of us co-convened a locally-significant 1982 Australian National University 'contemporary theory' conference in Canberra. We attended the 1992–3 Sydney art Biennale entitled 'The Boundary Rider' (read 'blurring boundaries'), subsequently using the exhibition program as a text in a Postmodernism course. All of these aimed to reduce the forest to its constituent trees. So for the present reviewers, revisionism is liable to sound like the well-established doxa, so much so we are compelled to put in a word for the by now much-maligned forest. Having said this and feeling bound to make the philosophical point, we understand that we are intruding into a highly specific historical debate in the discipline of archaeology. It may well be that the revisionist case put so forcefully in the South African section of the book under review is necessary in its specific context. We simply comment that the significance of the revisionism experienced by university disciplines in recent decades may be overstated. There is, however, a final observation to be made, and an essential (sic) one: identity (read identity politics) in South Africa has its especially fraught context in the light of apartheid. Who, in that situation, would not opt for blurring of boundaries?

Three Australian chapters 19, 21, 22 concern themselves, significantly or wholly, with the continent's arid zone, on which a deal of rock art research has been and continues to be done. Where the South African chapters discussed above show a theoretical aversion to notions of identity, the Australian ones make neutral use of it, in part because they are less theory-oriented and more straightforwardly empirical. McDonald (Chapter 19) reports on her work in the Western Desert region (the Calvert Ranges), on the accepted timescale of 50 000 years of human occupation. She argues, with some justification, against Smith's (2013) severe relegation of almost all arid-zone art to the Holocene. Smith's is probably the most authoritative book on desert archaeology in the light of palaeoclimate, but it seems unlikely that the first Australians arrived without existing traditions, not least following dating of depicted animals and stencils in Sulawesi. McDonald sketches out a stylistic sequence as an indicator of social change relatable to climatic fluctuations from c. 50 000 to the LGM to the Holocene and the archaeological near-present. It is very much a 'cable' argument, attempting to combine scientific data, archaeology, Information Theory and style-analysis. The thesis, applied to the Australian situation — and connected to theories about *refugia* which go back a long way and, more relevantly here, to Wobst (1974), Conkey (1980) and Veth (1993) — is that, with increasing aridity, groups tend to become less mobile and as a result more territorial, as part of this process exhibiting a greater variety of art/ritual behaviour. In less dry periods, they become more mobile, less territorial, more open to intercourse with other groups, and generate a more homogeneous art/ritual repertoire. This is plausible. However, McDonald seeks to strengthen the case

with reference to Wobst's paper of 1977, which takes stylistic variation as an index of information exchange, that is, signalling. Wobst puts this in the context of identity politics in the old Yugoslavia, the politics of highly 'visible' signs of social integration and differentiation. We feel (with McGuire 1981) that Information Theory is an insufficiently subtle tool for discussion of style. We also feel that, leaving aside the validity of Wobst on Palaeolithic Europe, applying his 1977 example of toxic ethnic conflict (with which one of the present reviewers is personally acquainted) to the indigenous Australian situation in a hypothetical antiquity is almost certainly misleading. Finally, we see no reason why the *refugia* argument should not stand, as a compelling hypothesis, without the more specific reference to Wobst's 1977 paper.

The logic of McDonald's argument is as follows: (1) there is data concerning climatic changes in the last 50 000 years; (2) it is reasonable to postulate related behavioural change in line with Wobst's ideas; (3) this may be correlated with stylistic changes, eight in number, assuming (4) it is possible to distinguish a stylistic chronology based on relative weathering, limited dating and superimposition. As stated, we have no problem with (1) or, excluding reservations about Wobst, with (2). The subsequent steps are more problematical. There are, of course, researchers sceptical of style-analysis *per se*, and this may be the place to mention it since Australia has one firm supporter of that option (Bednarik 2007a). Without defending archaeological definitions of style (the primary object of Bednarik's criticism) regarding which we too have serious reservations, we think a critical eye can be *learned*, as indeed it is by artists and art historians, and, on occasion, by social scientists. This does not make stylistic judgements objective. So we accept that they do not conform to an ideal of 'hard' science while maintaining that they are not in principle 'merely' subjective. This review not being the place for a necessarily philosophical discussion of the issue, we simply note it before returning to McDonald. Naturally, many who do not dismiss stylistic analysis as such may be sceptical of an attempt to distinguish eight degrees of stylistic difference by the look of the thing. Someone made that comment to us following a paper outlining the thesis in Albuquerque SAA 2019. For our part, we are cautiously open to the idea that, with practice, it might be possible (after all, wine-tasters distinguish between varieties of wine with no more disagreement than obtains in archaeology). However, McDonald's 'cable' argument means that stylistic difference is identified on the basis of several related approaches and assumptions, of which consideration of relative weathering, limited dating and superimposition form a part. There is the difficulty that, even allowing for a very informed eye, apparent weathering (which we imagine is mostly relevant to McDonald's petroglyphs) is no guarantee of actual age. Bednarik (2007b) and Smith (2013: 225–227) outline the problems in detail. It may be that superimposition (which we imagine is mainly relevant to her painted images) enables some distinctions, though the value of superimposition is only as sound as its associated typology. On the other hand, pigment dating is indeed limited (all of it younger than c.1500 years).

The principles underlying McDonald's eightfold classification of the rock art are varied. This means that her approach to style constitutes a 'cable'-within-a-'cable' argument. For a start, there is its reliance on Maynard's (1977 and 1979) scheme. In our view, Maynard showed admirable courage in her ambitious scheme, which offered a threefold stylistic division of Australian rock art (Panaramitee, simple figurative, complex figurative), with style defined as the sum of technique, form, motif, size and character. Having paid some respect to the scheme, we add that we do not accept a merely additive definition of style, and one involving incommensurable elements, as adequate. In particular, we think the simple-to-complex idea, understood as a historical progression or even in terms of what we might mean by 'simple' and 'complex', is flawed. McDonald accepts the Maynard scheme, adding 'placement' to the list of five style constituents, this last bearing on assumptions about aggregation/dispersal patterns prompted by climatic conditions. Her divisions are, as she says, broad-brush, with 'early' petroglyphs placed Maynard-wise at the beginning of the sequence (though also indeterminedly throughout it); an eventual shift, following four non-figurative phases, to four phases of figurative images (very Maynard), with the possibly-justified assumption that geometrics might be a stepping stone to those tantalising archaic 'faces'; three intermediate phases of large images in line with Maynard's category of 'size' and, specifically, with Wobst's stress on sign-visibility as identity-signal; shift towards figurative 'complexity' (Maynard), from face to full-body to decorated body; also from petroglyphs to paintings (Maynard 'technique'). The return to smaller size, as earlier to larger, is interpreted with reference to Wobst. Finally, the last two phases have the support of dating.

It is noteworthy that, in the end, McDonald allows slippage in her handling of the term 'signal'. In line with the emphasis obtaining in Wobst, she has used it as referring *intrinsically* to identity (that is, any signal must reinforce identity and differentiation from the Other); for later chronological periods, she allows it might have a non-identity content, that is, to signal any number of things, not necessarily identity. Of course, there is ample evidence that Australian rock art carries a variety of information. As regards identity, might one argue that, whatever else the art may have to say, it must in some sense be saying something about itself, that is, its — at whatever level — identity? That would justify the thesis without assistance from Wobst's signalling politics. While we understand the turn to Wobst for support of the visibility (motif placement/size) aspect of McDonald's argument, we see Wobst's

view as simply another hypothesis and Information Theory itself as simply a particular way of putting things. The other critical logical step in McDonald's case is that shifts illustrated by style-change involve 'placement' of art from wet periods outside the *refugium* to dry ones within it, that is, inside the Calvert valleys. This would be the backbone of the chronology, requiring a great deal of reasonably unambiguous data for support. Is 'cable' and 'cable'-within-'cable' logic, only as strong as a minimum of its components, sufficient for the job? In terms of logic, it is hazardous to proceed from a general thesis which may be sound (that of climate change/*refugia*) to its application in a particular case — just as we might say that, while in general, and for taphonomic reasons, petroglyphs will be older than painted images, it does not follow that this will be true in any given case. McDonald concludes that the very discontinuity of her art styles is evidence of classificatory deep-time, though this is a tenuous argument. We accept that her case is broadly coherent, impressively drawing together many diverse strands. However, coherence of argument is not proof of fact. There may be an art-chronology at McDonald's site which relates to aggregation/dispersal in keeping with climatic conditions, but it remains a multi-strand hypothesis.

Mulvaney's Chapter 22 deals with the all too well-known Murujuga rock art, a huge concentration of magnificent petroglyphs on the Western Australian coast. It is difficult to discuss this innumerable-site complex without a crushing sense of the vandalism perpetrated in the course of industrial development by Rio Tinto's Hamersley Iron port facilities, its associated Dampier Salt flats, and by Woodside Energy, the latter providing a visibly-dominant feature of the entire landscape with its constant LNG (Liquified Natural Gas) pillar of fire. Expressions of outrage, not least by the editor of *RAR*, have failed to prevent large-scale destruction. We have seen further development each time we have visited, on one notable occasion skirting industrial activities to reach the cemetery of 'rescued' art-bearing rocks dumped inside a compound the local Aboriginal people call, with their usual poetic irony, 'the lockup'. (We understand from a Woodside video that the prisoners have now been set free.) Damage notwithstanding, a vast amount of rock art set along the sides of sometimes gigantic hills made entirely of red boulders remains in situ. Mulvaney discusses the Withnell Bay area in an updating of unpublished 1982 research, sharing McDonald's approach in his reliance on 'contrast-state' eye-judgements of weathering correlated with motif-type, style and superimposition patterns. However, his 'cable' argument is especially heavily reliant on reading degrees of patination.

There is a date for occupancy at 21 000 (McDonald et al. 2018), and a distinction may be made between depictions of large fauna in the 'inland' valleys of Burrup (nothing being far from the sea) and depictions of marine creatures. Vinnicombe (2002) saw that this might provide a case for the greater antiquity of the non-marine petroglyphs — this in a context which, in post-glaciation Australia, is the opposite of Fennoscandia, with seas rising, not receding, and Murujuga yet to become an island. Mulvaney argues for Murujuga as a Pleistocene *refugium*, with some rock art, such as 'archaic faces' and 'climbing men' (the best-known site a stone's throw from the Woodside plant), as dating to the LGM. His case is that desert varnish, cut into by or overlying petroglyphs, provides a marker for his stylistic sequence. Overall, he has to postulate a reading of seven separate patination phases, or, going by motif type, two phases for 'land' and five for 'sea'. It is a tall order. Moreover, the issue of patination is complex (see Bednarik 2007b; Smith 2013), with Mulvaney's claim for the antiquity of the art highly contested. The only available dates for art are Lorblanchet's to late/middle Holocene for a midden area by the shore interpreted as associated with the petroglyphs, and this conclusion was complicated by Lorblanchet's infamous 18 000-year-old marine trumpet shell, at the proposed time inexplicably located some 100 kilometres from the sea (Bednarik 2002). At best, the shell find may indicate human occupancy, corroborating the McDonald date. Bednarik (2002, 2010) takes all Murujuga rock art to be Holocene, presumably because we have no current pre-Holocene dates. Smith (2013) dismisses the idea of a *refugium*, presumably for lack of occupancy evidence other than the shelter dated by McDonald, thinking Murujuga has had merely episodic occupation chiefly related to marine-resource exploitation. Accordingly, he thinks most of the rock art is Holocene, though allowing late Pleistocene dates for the oldest. Thus, despite Mulvaney's vigorous thesis, the discussion of the Dampier Archipelago's extraordinary rock art remains inconclusive.

With Franklin (Chapter 21), the theme of 'difference' in Australian rock art is most specifically addressed, though it was implicit in Chapters 19 and 22 considered above. Franklin's work on a Panaramitee style or tradition has chiefly involved the arid zone. However, its adherence to Maynard's classificatory scheme of Panaramitee/simple figurative/complex figurative requires focusing on the whole of the continent. With regard to 'Panaramitee', it is worth noting that there are diverse views: it may be seen as a more or less homogeneous pan-Australian tradition or as much more localised (perhaps restricted to central regions), or as more or less heterogeneous, even entirely so, thus making the term redundant. Franklin assumes a pan-continental perspective, characterising it as 'track and non-figurative' (McDonald referred to it as 'track and geometric' — our preference being for Clegg's 'tracks and lines' [Fig. 3]). In this chapter, Franklin uses (primarily) motif-count as a basis for multivariate analysis, both of Panaramitee and simple figurative. It is in line with Maynard's (self-directed ironic) 'when in doubt — count!' in her address at the 2015 commemoration of Clegg's death. Insofar as

Figure 3. *Tiverton, South Australia.*

the method allows, Franklin's is the most consistently wide-ranging attempt to justify Maynard's thesis. We have stated our sympathy for an attempt at large synthesis as well as criticism of the thesis. For a critique of the entire methodology of counting motifs (if not solely, at least largely motifs), we refer to Lewis-Williams' (2002) 'Man must measure' essay, where he traces it back, in particular to Vinnicombe and his own earlier work, and puts the case for approaching rock art in its own terms rather than as an adjunct to a particular kind of archaeology. For him, that meant a turn to ethnography, and while we draw back from his world-imperial shamanic thesis, and, moreover, think ethnography is not the sole alternative to a counting methodology, we find his commentary very telling. It is equally applicable where computer programs are used to sort out the data, since interpretation determines input. Nonetheless, provided one accepts the initial interpretation, in this case Maynard's, as well as the data gathered, not necessarily according to identical principles, by various researchers, one will proceed to Franklin's multivariate analysis.

The results are both similarity and difference for Panaramitee and (largely) difference for simple figuratives. Both options are explained in terms of the Veth/McDonald appeal to dispersal/aggregation patterns due to climatic conditions as reflected in the rock art. Our view is that the 'bonding' and 'binding' idea is a little overworked here. Moreover, the theory may be sound and the examples problematical, especially regarding simple figurative. At any rate, Franklin suggests open-system 'bonding' (her original 'discontinuous dreaming networks') for the oldest Panaramitee, with evidence of 'bounding' associated with the LGM. With simple figurative, the pattern is chiefly one of boundary-marking at key climatic periods (the LGM and mid/late Holocene) due to population pressure in resource-rich areas. So this is an attempt to combine Maynard and the *refugium* idea, with population pressure stressed for certain areas. Though we applaud another move to synthesise and not least explain the immense diversity of Australian art, we remain sceptical of motif counts, whether on punch cards (as for Vinnicombe) or in a computer (as here, though of course based on previous lists). We likewise find the simple/complex distinction as proposed by Maynard very problematical. All depictions are schematic, and perhaps some are more schematic than others, though we need to be very clear on what basis. In addition, that basis needs to be much better theorised than it is in Maynard's classification.

It may be helpful to discuss the three chapters on management as a unit, namely Chapters 6 (Hykkerud), 20 (Taçon) and 23 (Zubieta and McDonald). The first of these concerns preservation techniques; the others focus on collaboration with indigenous custodians. Hykkerud reports on apparently admirably well-meaning attempts to prevent deterioration of the rock face at the Alta site of Kåfjord, threatened by lichens and frost entering cracks. We will resist humour in connection with one of the treatments: alcohol (which seems to do no harm to the rock while killing lichen). The covering of the rock face with tarpaulin/plastic sheeting, which has been used elsewhere — we recall both growth and cover sheets at Nanaimo, Vancouver Island — caused further difficulties, especially with rodent holes made in the sandbags holding down the sheets and sand pouring out onto the covers, potentially onto the rock face. Following which a new arrangement came into operation, this time with a PVC cover underpinned by fibreglass insulation, itself inside PVC 'holsters'. Again, rodents got to the holster containers, allowing water to come in contact with the fibreglass. Finally, with these and other problems, and the example of semi-permanent covers at other Alta sites, Kåfjord lost its covers under a five-year plan, at which everyone awaits future outcomes. Even given the relative size of Norway and Australia, and the relatively many more Australian sites, the level of concern, ultimately successful or otherwise, over this Norwegian site shames us in Australia, where much rock art is regularly lost. Anyone who visits our rock art will have examples of visits before and after a fire. The present reviewers especially mourn the destruction of the Keep River site mentioned by Taçon in Chapter 20, due, in a manner analogous to the Alta case but far more severely, by the well-meaning building of platforms for visitors — which in the event added to the strength of and proximity to the fire. At any rate, fire damage is an issue of which

Australian rock art conservationists are all too well aware, if after the fact.

Taçon, via his Rock Art Protection Research Program, and its research base in PERAHO (the Place, Evolution and Rock Art Heritage Unit), includes conservation in his research activity, relevantly, in the present context, in Arnhem Land. His chapter insists on considerations that go beyond the physical protection of rock art to cultural factors. Of course, such factors, not least in association with the impact of site visitors, were aired in Hykkerud's chapter but, given the significant presence of Aboriginal people at or near frequently visited rock art, they have special relevance in Australia. Accordingly, while Taçon outlines a variety of conservation issues, his stress is on the value of rock art for local indigenous people and the need to include relevant communities in decisions regarding the management of sites as well as collaboration with local custodians in research activities —these being illustrated by the case of his own Wellington Range Arnhem Land study area. He is not unaware of the elephant in the room, which is the threat of economic development. In which connection we may allow ourselves another personal note: in 2020, we received what must have been an immediate response from the United States to a general news item which presumably went around the globe in a very short time. It was an email from a rock art specialist headed BOOM! under Subject — this when the expansion of Rio Tinto's Brockman 4 mine demolished the 46 000-year continual-occupation shelters at Juukan Gorge. (Fig. 4 illustrates a routine blast at the nearby Tom Price open-cut mine.) Clearly, Taçon's major strategy against this sort of event is to raise public awareness of rock art, partly by involving — and encouraging indigenous groups to become involved in — management, including tourism, partly by addressing Australians largely unaware of the significance of rock art but possibly sympathetic to Aboriginal causes. Accordingly, the tone of his appeal addresses the political class and the general public in terms they might understand, including the health, as well as economic, value of rock art in the indigenous landscape — to Aboriginal people themselves and by extension to all. The tone is practical and hands-on. Chapter 23 (Zubieta and McDonald) likewise focuses on Aboriginal custodianship, but in a fraught context. It must be said at once that this paper represents one outcome of a conservation project commissioned by BHP Billiton, the major iron-ore miner in the Pilbara, along with Rio Tinto's Hamersley. Just as Hamersley transports its ore from its inland Pilbara open-cut mines to Dampier in Murujuga, so BHP transports from the same general area to Port Hedland. Thus, it is unsurprising that the chapter treads softly on the issue of industrial development near a port that is the world's largest bulk exporter, chiefly but not solely, of iron ore. No companies are mentioned by name, and the fleeting reference to nearby Burrup/Murujuga is

Figure 4. *Hamersley Iron mining operations. Blasting at Mount Tom Price. Courtesy Berenice Carter, AUSCAPE.*

accompanied by an encouraging group photograph of indigenous rangers managing the rock art. The chapter explains that the management project led by Zubieta brought those involved in it in contact with local indigenous people. It goes into basic information gleaned in the process regarding indigenous ties to and feelings about the land, and outlines the history of legal processes in connection with Native Title (to land) — that is, land ownership, involving government, especially the Western Australian state government, as well as legal impediments to claiming let alone receiving ownership. The political information is useful to anyone interested, especially outside Australia, whereas comments about indigenous attitudes to the land are all-too-well known, having been much rehearsed in the past. At the same time, the chapter gives no information about the content of the report to BHP.

It is a pity there are not more than two chapters covering rock art in the Americas, these two being limited to the USA. Doubtless, this reflects the conference situation. Still, the editors of 'Perspectives on differences' have made a good choice in rounding off the volume with papers addressing its theme more directly than most and in different but complementary ways. Chapter 24 (Hampson) begins by asking: what constitutes a rock art 'region'? He chooses a geographical area, the Trans-Pecos, for his purposes bounded by the impressive Pecos art (as interpreted by, for example, Turpin and Boyd) to the east, and by the Jornada Mogollon complex (as interpreted by Schaafsma and others) to the west. Not that we are exactly concerned with boundaries here since these are understood as being very open. Hampson likewise chooses five motifs, or associations of motifs, divided into three porous categories. These categories are: imagery which is widespread throughout North America; imagery which is regional, though not necessarily of one region; imagery which is rare or unique. The connecting thread in the argument being American-ethnographic: the idea of a tiered cosmos with shamanic travel between tiers. Hampson uses

Figure 5. *Hueco Tanks, Texas.*

Turpin and Boyd, on the one hand, and, on the other, Schaafsma to support the ubiquity of shamanic belief. There may be a pitfall here since Boyd, for example, interprets the art in the most detailed way as illustrative of shamanic practice (the peyote pilgrimage), whereas Schaafsma, while discussing ethnographic material, refrains from an interpretation of particular art unless she has specific, say historical, evidence, leaving issues open for older art (the case of Barrier figures, for example). That problem aside, Hampson concludes by returning to his opening question. A region is pinpointed by a three-phase logic: check out the ethnography, which tells one why the art was made; interpret the imagery as an instantiation of the ethnography; read regional variation in terms of the presence or absence of such imagery. In short, one defines an art region in terms of its motifs rather than its style, with or without archaeological support. This, of course, glosses over the matter of time. Hampson would probably respond to criticism along these lines by saying that as temporal information becomes available in a given case, the 'region' changes shape, this being in line with the original assumption that it is porous — presumably temporally as well as geographically. The main thing for him is to identify 'regional' ethnography, that is, the mythological/ritual system(s) obtaining in the given location and connect this with imagery on the rocks. Turning pages back to Morris' Chapter 16 commentary on Hampson, we are inclined to agree that Hampson is specifically courting 'differences' as a strategy. Thus, for him, a 'motif' would simply become a unit of difference. If this is so, we are not sure that the concept of a 'motif' (Fig. 5) is less problematical than that of 'style'. The latter at least has been much debated, whereas a 'motif' is a strange animal, at least on its own, as here. After all, it is just an individual formal element, to an extent arbitrarily chosen by the researcher. 'Style', on the other hand, however subjective it may appear to social scientists, is understood in a way familiar to art historians as a holistic concept, one that potentially connects the image with a cultural context. For Hampson, the criterion is whether the motif is 'intelligible' or ethnologically readable. Does that suffice?

It may, after all, be pretty much what Lewis-Williams did with his turn to ethnography via Bleek and Lloyd, then proceeding to interpret San pictures as shamanic. Given not unreasonable despair at the futility of counting motifs, the move to ethnography makes sense provided, in the Lewis-Williams case, one is confident of one's reading of the gnomic San utterances recorded by Bleek, and, in Hampson's case, one has available ethnography and little else. There is the further difficulty, for both Lewis-Williams and Hampson, of applying ethnography to a reading of particular art. One may simply get this stage wrong, especially if one assumes that all art is likely to depict specifics of the ethnographic system one has identified. Lewis-Williams probably got a lot right before he made this easy assumption (for example, by moving his thesis out of southern Africa). Hampson too readily treats hypothesis as fact, though to do him justice, this is frequently done in the American context, where, for example, any apparently non-figurative motif is liable to be taken as shamanic/entoptic. To return to Hampson's intelligibility criterion: is the *possibility* of a reading sufficient criterion for uncovering meaning in rock art? Since, like Lewis-Williams, we have an initial schooling in literature, we will do as he does and quote George Eliot — but for our own purposes, viz expressing scepticism concerning 'handsome dubious eggs called possibilities' (*Middlemarch*).

In any case, Hampson goes a step further than his model, sketching out regionality based on earlier moves. All in all, those who would be readily sceptical of, for example, Boyd's attempt at ethnographic-rock art synthesis, will throw up their hands at Hampson's three-tier deduction. Still, we need to be as clear as possible about what Hampson is doing, whether we agree or not. Are we prepared to accept regional variation, that is, style, as based solely on motif occurrence? Provided the motif is 'intelligible' (meaning ethnographically readable)?

Chapter 25 (David and Conkey) is also focused on issues of difference but on the basis of archaeological as well as ethnographic evidence. The chapter appears to rely on David's postgraduate and ongoing work among his people, the Klamath, straddling the Oregon/California border. Since Conkey is co-author, interest in 'style' comes as no surprise. More precisely, however, the desire here is to avoid by-now tired debates about the continuance or demise of stylistic analysis in rock art studies and to tackle stylistic variation as it were from the ground up. The authors choose the striking (and, to Australians, familiar) motif of a 'nucleated concentric circle' — understood by Klamath and

Modoc communities as representing sun, sun-halo and morning star — in the context of mythology to a fair extent derived from non-indigenous sources. (This last perhaps, as in Australia, a possible source of scholarly despair to the indigenous researcher.) David and Conkey want to chart differences in the practical and symbolic use of the same motif. Thus, the circle mutates as it finds different placement and different concomitant meaning, though, as generally in America, the fundamentals remain shamanic. Close to a settlement, but not so as to be public, the circle, set among a variety of images, denotes a shamanic place of cure; at a 'frequently-used' location, say along a trail where food may be processed, the circle, this time represented on its own, exhibits shamanic power; at a place of 'special-use', such as a remote cave, it will come with elaborately-varied circular forms for the purpose of a private shamanic quest. The authors express these as 'common' differences, that is, differences within a common understanding by the whole community. There is no stylistic homogeneity, but there is a definite underlying order, all of this embodied in the circle.

Thus, the last two chapters in the collection dovetail somewhat, returning to the theme of the whole. The first examines regional variation, the second, variation within a community. The first specifically affirms difference, with an appeal to mythology; the second finds ordered difference with an appeal to mythology and to archaeology. In the end, Gjerde's and Arntzen's edition, despite its difficult aim, which is to bring different subject matter and methodology together in the one coherent volume, to a degree reconciles difference with sameness.

In conclusion, the two reviewers wish to thank authors in the collection for providing them with a task substantial enough to carry them through Canberra's second COVID lockdown.

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RAR 39-1394

Rocks of ages: developing rock art tourism in Israel, edited by JOSHUA SCHMIDT. 2022. Archaeopress Publishing Ltd., Oxford, 142 pages, 122 photographs, 8 tables. Softcover, £35.00, ISBN 978-1-78969-968-5.

Although the focus of this edited volume is not on rock art research, its topic — developing rock art tourism — may nonetheless be of interest to the readers of this journal. With the bulk of the research in the area being done by an organisation that has only recently joined IFRAO (the Negev Rock Art Centre), and with the main contributions by researchers associated with it, the book reflects how the IFRAO Code of Ethics regarding rock art that may confidently be defined as 'heritage' is taken into consideration and respected.

However, except for *wusum* (the tribal marks of the 'Azazme and Janabib Bedouins who call the Negev Highlands their home) and a number of Safaitic, Nabataean, Thamudic and Arabic inscriptions, it is difficult to establish the identity of the mark-makers unequivocally. Therefore, in a non-committal manner, Chapter 1 introduces the rock art of the Negev as an 'expression of nomadic and semi-nomadic cultures' (p. 3). With the cultural ancestors of both groups that inhabit the Negev Desert — Israelis of Jewish and Bedouin descent — being such pastoral nomads, the petroglyphs should be perceived as a commonly shared heritage that, as Liora Kolska Horwitz remarks in the Afterword, 'instead of being a divisive element'; it should rather be conducive to 'bridging differences between Arab and Jewish communities as well as between religious and secular people' (p. 117).

Unfortunately, politically and religiously motivated considerations on both sides interfere on the one hand with scientific research and, on the other hand, with the inclusion of the Bedouin community in the development of rock art tourism. Although, throughout the volume, it is repeatedly stated that there is no clear narrative that could be associated with the rock art or its makers, some tour guides and even a small number of researchers tend to fabricate their own interpretations, which are heavily corrupted by biblical accounts. Emmanuel Anati's controversial hypothesis that identifies Har Karkom — where one of the highest concentrations of petroglyphs is located — with Mt Sinai and his tentative chronology based on the stylistic analysis of a small number of photographs randomly taken by inexperienced travellers in Arabia in the 1950s and extrapolated to the southern Levant are constantly referred to in such narratives. Conversely, given the iconic content of many petroglyphs, influential elders in the Bedouin community tend to distance themselves from a cultural heritage that does not conform to the representational limitations of Islam. However, as known from the case of other Arabian rock art sites, certain Bedouin groups have apparently defied such religious restrictions. They continue to create rock art or use pre-existing sites for ceremonial purposes. Therefore, developing rock art tourism without their active participation in the process is unimaginable. Indeed, based on an ethnographic field survey, the editor of this volume has contributed a lengthy chapter that explores the modalities of how the Negev Highlands Bedouins could become equal stakeholders in rock art site development and management (pp. 45–52). The commitment to the IFRAO Code of Ethics is clearly stated in Chapter 12, where Joshua Schmidt recommends that '[despite] the politically charged nature of the region, all conservation plans must adhere to an ethical code that is universally accepted across the major rock art areas of the world, with the Negev rock art tradition being one such area. Particular emphasis should be placed on the living traditions of the Bedouin and their rock art narratives' (p. 105). Unfortunately, however considerate the recommendations of the scholars who have contributed to this book, 'the policy and decision-makers in Jerusalem are relating to them with a degree of scepticism and it remains unclear to what degree they will choose to support or obstruct their fulfilment' (p. 51).

Having these observations in mind, it must be specified that *Developing rock art tourism in Israel* does not address an ongoing process but is a mere exploration of the possibilities of doing so. This interdisciplinary project is the combined output of contributors specialising in cultural anthropology, archaeology, rock art research, natural sciences, sociology, territorial development and tourism. Their expertise became instrumental in establishing an Israeli-Italian team for an Integrative Multilateral Planning to Advance Rock Art Tourism (IMPART). This volume is IMPART's preliminary report comprising ecological, archaeological and ethnographic surveys of the Negev Highlands and insights well beyond the final set of recommendations.

Introduced by Steven A. Rosen, the book is organised into twelve chapters authored by individual contributors, the IMPART team and scholars in collaboration with IMPART. Part I comprises six chapters dedicated to the dynamics of Negev rock art tourism.

Chapter 1 (IMPART) introduces the reader to the rock art of the Negev, its distribution and history of research. It also voices concerns over the potential to destroy this fragile heritage and questions the policy of making the sites accessible to the public before their rigorous scientific investigation. It advocates for the development of a pilot site already known to rock art enthusiasts (Har Michia), which features marked trails between the panels, explanatory notes, unobtrusive landscaping and a navigation app. Noting the increasing interest in the archaeology and cultural heritage of the Negev, the authors acknowledge the importance of the Negev Rock Art Centre in organising thematic conferences that promote participation in further research and encourage sustainable heritage tourism. The chapter concludes with the enumeration of the coordinated research activities of the IMPART team, which are discussed at large in the next chapters.

Thus, Chapter 2 opens with the question of how 'could a rock art tourist industry flourish without compromising the fragile Negev environment?' (p. 11). To answer it, tourism specialist Dan Gur undertakes a meticulous analysis of present trends and interests and an enumeration of the geographical areas that already attract tourists and could be further developed to make adjacent rock art sites more accessible. Gur recommends 'cultivating synergy' with already successful local tourist attractions to create comprehensive regional tourism packages (p. 14). After listing some possible partners in such an enterprise and defining the parameters that inform his vision, he profiles the potential target tourism markets and presents his recommendations.

Chapters 3, 4 and 5 (by Sara Levi Sacerdotti and

IMPART) offer a detailed quantitative and qualitative analysis of Negev tourism data. Levi Sacerdotti is a specialist in the analysis and evaluation of public policies within specific territorial settings. After addressing and illustrating various parameters, such as length of stay, trip motivation, organisation and means of transport, she goes on to evaluate the travel experiences of visitors. She isolates several preferred destinations and specific interests. Her colourful graphs and abundant statistic data may be of interest to tour guides and operators, but, from a researcher's perspective, they take up too much space at the expense of rock art-related topics. However, her less graphic analysis of the strengths, weaknesses and (missed) opportunities of the Negev tourist industry and the threats facing the natural and cultural environment are a valuable contribution to the volume.

In her last chapter, Levi Sacerdotti attempts to establish a 'benchmark for open-air rock art site management', that is, an evaluation of policies practised in heritage sites and the identification/recommendation of the best fitting model for the marketing of the Negev petroglyphs. She examines the management model of various European archaeological parks offering tourist infrastructure and contrasts them to that of relatively remote nature parks with poor infrastructure where, besides the archaeological attractions, the landscape is also protected. Finally, she inspects the model of rock art sites that are managed and/or protected by international trusts. Disappointingly, the chapter does not make a clear recommendation as to which model should be adopted.

Chapter 6 is based on Joshua Schmidt's notes from an ethnographic field survey of the Negev Highlands Bedouins. Following a brief history of Bedouin settlement in the Negev Desert, the present legal, social and economic status of the 'Azazme and Janabib communities is discussed. Various modalities for their inclusion in rock art site development and management are proposed and debated, the ethical aspects of which I have already addressed in the opening lines of this review. After years of fieldwork with the Janabib Bedouins of 'Abda, I can only commend the initiatives forwarded in this chapter.

In the book's second part, a representative area earmarked for potential development is introduced and surveyed. The site is located on an easily accessible slope of Ramat Matred, a plateau with a high concentration of petroglyphs. In Chapter 7, Ron Frumkin presents a geo-ecological overview of the site, in which its geology, flora and fauna are mapped and illustrated. He concludes that the surveyed territory is not a rare or unique habitat. Its location near a road and a marked trail would make the site a good choice for a rock art park, provided that the recommendations offered at the end of the chapter are observed.

Chapter 8 is the contribution of Davida Eisenberg-Degen, a leading archaeologist and rock art expert whose name is likely familiar to the readers of this journal. She summarises the results of her archaeological survey of Ramat Matred in a highly professional manner, which makes this chapter one of the most valuable contributions to the volume. She sets out with a brief historical account of the Negev Highlands and references previous archaeological studies of the area. Next, she outlines the framework of her survey and proceeds with a minutious inventory of archaeological remains. The locations where the finds could help dating nearby petroglyphs are recommended for further excavation.

Ifat Shezaf picks up the thread where Eisenberg-Degen has left it. In Chapter 9, she shares the results of a rock art survey conducted by the IMPART team as a preliminary step towards a regional tourism management plan. After outlining her meticulous survey methodology, she addresses the distribution of petroglyphs by type, engraving phase, degree of patination, motifs and engraving techniques. This well-written chapter is perhaps the most informative part of the book, at least from the perspective of rock art enthusiasts.

Chapter 10 is the GIS (Geographical Information System) visualisation of the ethnographic, geo-ecological and archaeological surveys, compiled by Eli Cohen-Sasson, a specialist employed by IMPART for this purpose. Of interest are the maps that show the distribution of archaeological sites according to their chronology. Their specific clustering patterns and proximity to petroglyphs are easily depictable in the maps that illustrate road, settlement, encampment, nature reserve and military firing zone layers in various states of superposition.

Part III sketches the conclusions and recommendations of the IMPART team for promoting heritage-based tourism with the help of rock art. In Chapter 11, the connection between cultural heritage and the local population, 'which is particularly important in the Negev due to the presence of Bedouin communities with a strong cultural attachment to the desert environment' (p. 99), is emphasised, and their involvement in touristic ventures meant to familiarise the public with the rock art of past and contemporary nomads is strongly supported. Noting that rock art only offers a restricted spectrum of the culture that created it, it is suggested that Bedouin participation should focus on the preservation and presentation of nomadic culture and lifestyle as a whole, including hospitality, herding, traditional dwelling and various cottage industries.

From the management models 'benchmarked' in Chapter 5, the natural park model is recommended as being the most suitable for the Negev Highlands due to the primary importance of environmental aspects. As the researchers found that there are convincing arguments against the establishment of specialised rock art tourism — such as the necessity for unhindered continued research, the absence of an overall narrative, security issues, intense heat in summer — the option of developing an experimental tourist site for a limited audience is suggested.

In the final chapter, Joshua Schmidt outlines a set of recommendations for sustainable Negev rock art tourism. These comprise the guidelines forwarded at a symposium held in 2016, where delegates from various walks of life were asked to relate their visions for the conservation of rock art sites and the environment in light of the ever-increasing demand for touristic development. The main question posed was whether there was any justification in creating rock art parks beyond what was at the time already established on Har Michia and, for such a case, a number of probable management policies were debated. Keeping in mind that any kind of development must conform to the guidelines of the Israel Antiquities Authority, the debate can only offer the decision-makers facts and details that might influence their ruling on the matter.

The Afterword, written by Liora Kolska Horwitz, is a concise summary of all the topics addressed in the book's twelve chapters. The ambiguities that mar the recommendations of the last chapter are also clarified. As she remarks, 'there is a clear "take home" message in this report, namely that it is currently premature to develop more rock art sites or even a large rock art park. Rather, it is more advantageous to focus on and monitor existing rock art localities that are already developed and are accessible to tourists' (p. 115).

To sum up, *Developing rock art tourism in Israel* seems only to recapitulate ideas that were already set in stone many years ago (no pun intended). However, the ethical approach to developing heritage sites in the Negev underwent a radical change and became more accommodating. On a positive note, the book has the potential to serve as a valuable reference and inspiration for decision-makers commissioned with the development of heritage sites in other parts of the world, where the touristic potential of rock art traditions is only beginning to be recognised.

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RAR 39-1395

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). The final issue includes these research articles:

Number 91 (2021):
BEN NASR, J.: The rock art of the Gafsa region, central-southern Tunisia: the sites of Sidi Aïch and Bou Guitoun.
STRECKER, M. and R. FÉLIX: Evidence of warfare in rock paintings of Roboré, Santa Cruz, Bolivia.
BRAUN, I. M.: The chamois (*Rupicapra rupicapra*) in Palaeolithic parietal/rock art.
VAN HOEK, M.: The 'amputated *Carcancha*' of the Alto de Pitis, Peru: an alert.

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 30–31 (2021):
TEWARI, R.: Indian rock art studies: a brief overview.
KUMAR, G. and R. G. BEDNARIK: Protection of Daraki-Chattan Cave and establishment of an autonomous national Stone Age heritage park-cum-research centre under Ministry of Culture, Government of India in Bhanpura region in Chambal Valley.
HRIDAYSHRI: Stone Age rock art and communication design: a preliminary study — part 2.
OTA, S. B. and G. KUMAR: Developing standards for the sustainable development of rock art heritage sites with special reference to Bhimbetka: rationale.
SWAMI, S., R. KRISHNA, C. SWAMI and A. BAHADUR: Concept paper: developing standards for the sustainable development of rock art heritage sites: a business management perspective.
BHUSHAN, S.: Dynamic and mutually reinforcing virtuous spiral of community-based sustainable development around rock art heritage sites of India.
KRISHNA, R.: The dynamics of sustainable development and promotion of Bhimbetka: a UNESCO World Heritage Site.
OTA, S. B., K. K. MUHAMMED, R. G. BEDNARIK, G. KUMAR, R. KRISHNA, B. KURIAN, S. C. MISHRA, M. DUBEY-PATHAK, N. VYAS and O. P MISHRA: Further comments and recommendations.
KUMAR, G., S. K. TIWARIS. K. SINGH, N. SINGH, R. KRISHNA, A. KUMAR, A PANDEY, U. RAI and R. N. BHAINA: Micro-documentation and comprehensive study of the rock art of Kauva-Khoh in District Sonbhadra of Uttar Pradesh, India.
KUMAR, G., R. KRISHNA, HRIDAYSHRI, N. SINGH, A. KUMAR and A. PANDEY: Micro-documentation and comprehensive study of the rock art of Magazine Rockshelter, Ghandisagar in Chambal Valley, Madhya Pradesh, India.
KUMAR, G., J. K. NISHANT and ABHIMANYU: Newly discovered rock art site, Navagarh in District Lalitpur, Uttar Pradesh.
KUMAR, G., R. KRISHNA, A. HANUMAT and J. P. MISHRA: Rock art of Manikpur-Chitrakoot region, Uttar Pradesh: some observations.
SHARMA, A. K. and S. SHARMA: Over imagination in rock art.
BOSE, R.: Unreported petroglyphs on the granite rocks of Jhangira and Murli Hills, Sultanganj, Bihar.

Les Cahiers de l'AARS. Journal of the Association des Amis de l'Art Rupestre Saharien. Edited by JEAN-LOÏC LE QUELLEC. The most recent issue features

the following articles:

Number 23 (2021):
HALLIER, U. W. and B. C. HALLIER: Petroglyphs and pictographs of the Djado region (Niger) and of other regions of the southern central Sahara. Round Head homeland?

RECENT BOOKS OF INTEREST

Bouquetins et Pyrénées: 1 – De la Préhistoire à nos jours, edited by ALINE AVERBOUH, VALÉRIE FERUGLIO, FRÉDÉRIC PLASSARD and GEORGES SAUVET. 2021. Presses Universitaires de Provence, Aix-en-Provence, ISBN 979-1032002926. (This book won the Prix du Livre Pyrénéen-Connaissance 2021).

Ausgewählte Säugetierdarstellungen in der Eiszeitkunst und der Versuch ihrer zoologisch-ethologischen Interpretation, by INGMAR MICHAEL BRAUN. 2022. Universitätsforschungen zur Prähistorischen Archäologie, Institut für Ur- und Frühge-schichte und Archäologie des Mittelalters der Universität Tübingen, Volume 373, Verlag Dr. Rudolf Habelt Gmbh, Bonn, 234 pages, 501 monochrome illustrations, softcover, €61.00, ISBN 978-3-7749-4326-1.

RECENT PAPERS OF INTEREST

The dawn of exograms, by ROBERT G. BEDNARIK. 2020. In D. Seglie and R. Ricchiardi (eds), *NeanderART 2018: Is there palaeoart before modern humans? Did Neanderthals or other early humans create 'art'?*, pp. 73–94. Centro Studi Silvio Pellico - Marcovalerio Eidzioni, Turin.

Changes in the so-called non-utilitarian production in human history, by ROBERT G. BEDNARIK. 2020. In D. Seglie and R. Ricchiardi (eds), *NeanderART 2018: Is there palaeoart before modern humans? Did Neanderthals or other early humans create 'art'?*, pp. 95–124. Centro Studi Silvio Pellico, Marcovalerio Eidzioni, Turin.

Some inscriptions from Rajdari and Sonbhadra District of Uttar Pradesh, by AJAY PRATAP and ARVIND K. SINGH. 2020. *Purānveshaṇa: Indian Journal of Archaeology and Tradition*, Volume 3, Number 2, pp. 107–112, 218–221.

El abrigo con pintura esquemática de Pala de Cabras (Ourense). Encuentros y desencuentros entre dos tradiciones, by MANUEL SANTOS-ESTEVEZ, CARLOS TEJERIZO-GARCÍA and FRANCISCO ALONSO TOUCIDO. 2020. *Complutum*, Volume 31, Number 1, pp. 7–24.

Petroglyphs of Victoria, by ROBERT G. BEDNARIK. 2020. *Proceedings of the Royal Society of Victoria*, Volume 132, Number 1, pp. 7–11.

Troubled times: the history and rock art of bandit groups in the Winterberg, by BRENT SINCLEAR-THOMSON. 2020. *The Digging Stick*, Volume 37, Number 1, pp. 5–9.

A rock painting at Snowhill Cave in the Drakensberg, by J. FRANCIS THACKERAY. 2020. *The Digging Stick*, Volume 37, Number 1, pp. 10–11.

Sound and song lines in the rock art of the Cederberg, by ANDREW PATERSON. 2020. *The Digging Stick*, Volume 37, Number 1, pp. 17–21.

U-Th analysis and rock art dating, by ROBERT G. BEDNARIK. 2020. *International Newsletter on Rock Art*, Number 88, pp. 10–14.

Reviewing Siega Verde, Spain, by ROBERT G. BEDNARIK. 2020. *International Newsletter on Rock Art*, Number 88, pp. 15–19.

Rock art, by ROBERT G. BEDNARIK. 2020. *Scholarly Community Encyclopedi*a, https://encyclopedia.pub/3646.

Gender and northern Eastern Cape San rock art, by DAWN GREEN. *The Digging Stick*, Volume 37, Number 3, pp. 1–7.

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First Pleistocene rock art found in central Europe, by ROBERT G. BEDNARIK. 2020. *L'Anthropologie*, Volume 124, Number 3, doi: 10.1016/j.anthro.2020.102778.

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The geoglyph as a medium for anarchist ritual, by DARRYL WILKINSON. 2021. *Cambridge Archaeological Journal*, Volume 31, Number 1, pp. 95–110.

Faces in the stone: further finds of anthropomorphic engravings suggest a discrete artistic tradition flourished in Timor-Leste in the terminal Pleistocene, by S. O'CONNOR, N. V. OLIVEIRA, C. D. STANDISH, M. GARCÍA-DIEZ, S. KEALY and C. SHIPTON. 2021. *Cambridge Archaeological Journal*, Volume 31, Number

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Rock art clustering programme for protected areas. A Drakensberg cave study, by CELESTE ROSSOUW and SONJA KRÜGER. 2021. *The Digging Stick*, Volume 38, Number 1, pp. 9–12.

In which cases is it appropriate to use ethnography to explain rock art and can we say anything about it in the absence of ethnography? By BARRY JACOBY. 2021. *The Digging Stick*, Volume 38, Number 1, pp. 13–17.

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ORIENTATION

Letter to the Editor

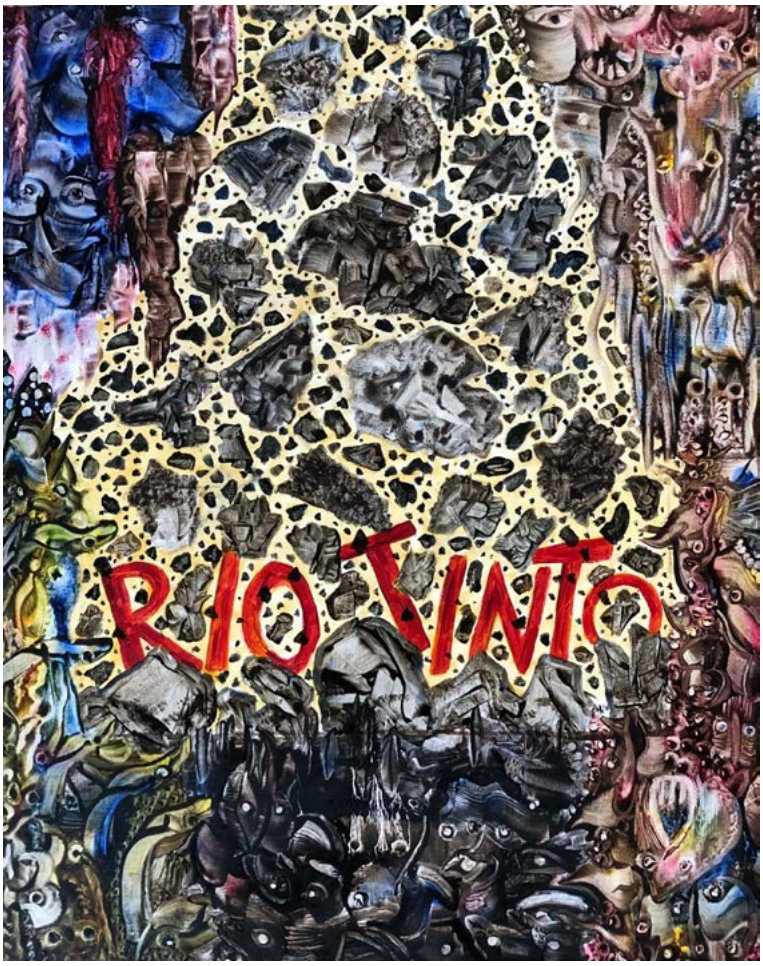
Dear Robert,

I was shocked and angry to read your text on the reasons you have resigned from the position of Chair of the AURA Congress.

As someone who has made an extraordinary contribution to rock art research both here and internationally, to be put in that position is outrageous. After the RIO TINTO atrocity and the ensuing investigations, I was appalled that when the corrupt WA Government announced its new legislation on Indigenous cultural heritage, it was simply another scam. I'm not in 'the loop' and may have missed some of the reporting, but I only saw Indigenous people protesting against this outrageous dereliction of our responsibility to protect one of mankind's most precious cultural archives. As we now have Chairs of rock art research in our universities and a group like the Kimberley Foundation, now Rock Art Australia, I had expected to see these academics and associations furiously lobbying both state and federal governments to give Indigenous people the last say on THEIR cultural heritage. Alas, it hasn't happened and nothing has changed.

It is appalling that you are getting the typical Australian reaction to 'whistleblowers' by the RIO TINTO Chair of Rock Art Studies and Rock Art Australia. I was surprised that the University of WA still has a RIO TINTO Chair, as I would have thought that a university with any moral fibre would have disassociated itself from the company after its appalling destruction of the Juukan Gorge site. How can they justify this? I am also puzzled that any University department studying Australian Rock Art would look the other way when the WA Government refused to give the final say on protecting Indigenous Cultural Heritage to the Indigenous custodians.

Getting someone suitable to take your place as Chair of the Congress is going to be very difficult as it's such a demanding, thankless position. I hope such a person can be found as it is so important that the Congress takes place. I know that your contributions to the Congress will still be vastly important.



'Rio Tinto', by Tony Convey.

Thank you for all of your contributions to rock art research, and best wishes for the years ahead.

Tony Convey

RAR 39-1396

IFRAO-24 cancelled

Dear Tony,

Thank you for your wonderful support, expressing sentiments like those conveyed by several other correspondents. For the reader's information, particularly the international reader: Tony is referring to the cultural atrocity by the British mining giant Rio Tinto, who destroyed the Juukan Gorge rockshelters in the Hamersley Ranges of Western Australia's Pilbara

region with explosives. Located about 70 km west of Tom Price, the sites included evidence of 46 000 years of 'continuous' occupation. Their destruction in 2020 was followed by a parliamentary inquiry that reported its findings in October 2021, just a few weeks before AURA accepted the Perth bid for the Fourth AURA Congress (and IFRAO-2024 Congress).

On 22 December 2021, the Western Australian *Aboriginal Cultural Heritage Bill 2021* was introduced. It remained as flawed as the *Aboriginal Heritage Act 1972* it replaced. It retained the Section 18 exemptions: any decision by the Aboriginal Cultural Material Committee to preserve sites could be overruled by the Minister for Aboriginal Affairs. Of the c. 1000 Section 18 applications made since 2010, only five (0.5%) have been denied. Therefore, the destruction of Aboriginal cultural heritage has been legal in Western Australia for the past fifty years, ever since the 1972 Act was introduced. That includes the Juukan sites, whose destruction was approved in 2013 by the then Minister of Aboriginal Affairs, Peter Collier. It also includes the destruction of almost one-quarter of the Murujuga petroglyphs in the Dampier Archipelago, reputedly the largest rock art concentration on the planet. Indeed, the 2021 federal inquiry stated that the Act made "the destruction of Indigenous heritage not only legal but almost inevitable".

Although no presence of rock art was reported in the Juukan Gorge rockshelters, the implications of the Western Australian *Aboriginal Cultural Heritage Bill 2021* for the state's extensive rock art are profound. For powerful corporations like Rio Tinto, BHP and Woodside, who pay consultants for securing their exemptions and for the (highly lucrative) removal of rock art, it will simply be business as usual: the legal destruction of rock art sites will continue. With the new legislation of December 2021, the Western Australian government has missed another opportunity to discontinue this practice. Under these conditions, it would be inappropriate to hold the premier academic event of our discipline in Western Australia — or for that matter, anywhere in Australia. It was State Premier Hon Mark McGowan MLA who invited AURA to Perth (see his letter on right). I have written to him (see next page), explaining that it is no longer appropriate to hold the event in Western Australia because of the legislation enacted since we awarded the congress to Perth. It could be interpreted as an approval of the state's cultural heritage vandalism.

Robert G. Bednarik

RAR 39-1397

Premier of Western Australia

Professor Robert G. Bednarik
International Federation of Rock Art Organisations
C/- Australian Rock Art Research Association
PO Box 2016
CAULFIELD SOUTH VIC 3016

Dear Professor Bednarik

I encourage you to consider Perth, Western Australia as the host city for the 4th Australian Rock Art Research Association Congress (AURA) & Congress of the International Rock Art Organisations (IFRAO) in 2024.

One of the great things about travelling is experiencing the sights, sounds, tastes and traditions of local cultures. Visitors to Western Australia have long been fascinated with our rich Aboriginal history and keen to take part in Aboriginal tourism activities.

Through our Jina initiative, Western Australian Aboriginal Tourism Action Plan, my Government is committed to making Western Australia the nation's leading holiday destination for authentic Aboriginal cultural tourism experiences and to make our State the destination of choice for visitors who want to immerse themselves in our First Australians' culture to learn about their traditions, language, history and customs.

While your delegates will benefit from collaborating and meeting with their peers from around the world, Perth is also a highly desirable place to visit with a safe and clean reputation, world-class infrastructure, and countless new experiences you cannot find anywhere else. It is little wonder that it has been rated 'The Friendliest City in Australia' thanks to our lively locals, engaging social scene and ease of access for visitors.

Perth offers world-class conference facilities and with the opening of many brand-new hotels throughout the city, you can find accommodation to suit all delegate requirements. In the past five years, an unprecedented $AUD10 billion has been spent on major infrastructure that has transformed Perth into a vibrant and cosmopolitan destination for business events, boasting world class conference venues, public spaces and an extensive choice of dining and entertainment options.

Perth's geographic location on the west coast of Australia, makes it the country's gateway to Europe and Asia; prior to the recent disruption to the aviation industry, Perth was connected to major global cities with direct flights to Tokyo, London, Shanghai, Dubai and Abu Dhabi and five daily flights to Singapore. With its close proximity to Asia, Perth also shares the same time zone with 60 per cent of the world's population.

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I welcome your consideration of Perth, Western Australia as the ideal city to host the 4th Australian Rock Art Research Association Congress (AURA) & Congress of the International Rock Art Organisations (IFRAO) in 2024.

Yours sincerely

Mark McGowan MLA
PREMIER

20 SEP 2021

Letter to the Premier of Western Australia

Hon Mark McGowan MLR

Dear Premier,

We thank you for your invitation of 20 September 2021 to hold the Fourth Congress of the Australian Rock Art Research Association (AURA) and the 2024 Congress of the International Federation of Rock Art Organisations (IFRAO) in Perth. Your proposal, through Business Events Perth, was by far the best of the five venues that bid for the event. It included substantial financial support and was to be held in the state that is reputed to comprise the largest concentration of rock art in the world. These significant advantages are in addition to the many other benefits Perth and Western Australia offered to an international conference that is very much focused on an extensive field trips program occupying several weeks. Some of these advantages were rightly emphasised in your invitation.

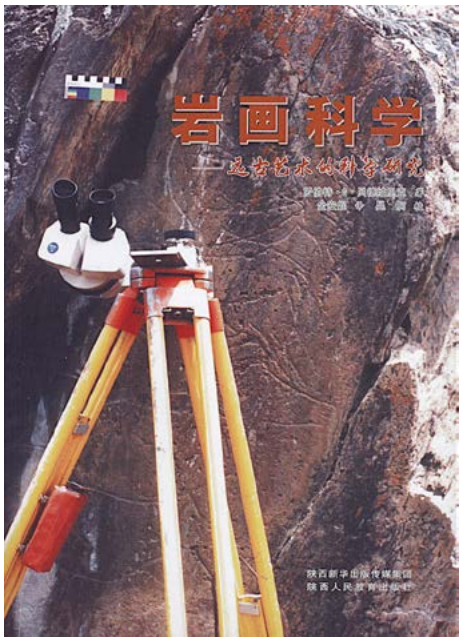
Therefore, we had no hesitation confirming our acceptance of the Perth bid in November of last year. We were enthusiastic about the prospects of our conference being held in Perth in mid-2024. Our collaboration with Business Events Perth was exemplary, but unforeseeable events soon became a significant concern.

In October 2021, the Joint Standing Committee formed in the wake of the Juukan Gorge disaster had formulated its finding that the *Aboriginal Heritage Act 1972* needed to be reviewed. Specifically, its Section 18 provisions meant that rock art was ultimately without effective protection in Western Australia, being at the mercy of the Minister for Aboriginal Affairs. Nearly all applications for site destruction under that legislation have been granted for the past 50 years. We were confident that your government would adopt the recommendations of the parliamentary inquiry. However, in late December, the 1972 Act was replaced with the *Aboriginal Cultural Heritage Bill 2021*, which retained the Minister's ultimate powers. Aboriginal people are denied the right to appeal, and rock art will continue to be destroyed. The deliberate damage of monuments is incompatible with the UNESCO *Declaration Concerning the Intentional Destruction of Cultural Heritage* (2004, Section VI), to which Australia is a signatory. In these circumstances, it would be inappropriate to hold an international rock art conference in Western Australia and to accept financial support from a Western Australian government agency.

Therefore we regret having to advise that the Perth AURA / IFRAO Congress is cancelled.

Yours sincerely,
Prof. Robert G. Bednarik
Convener/Editor, IFRAO, & Secretary/Editor, AURA

RAR 39-1398



Rock art science book translated

An updated third edition of the standard textbook on the scientific study of palaeoart, especially rock art, has been translated into Chinese recently. Initially, the volume was published by Brepols of Turnhout, Belgium, in 2001. Aryan Books International in New Delhi produced a revised version in both hardcover and softcover format six years later. China's recent surge of interest in the scientific study of rock art rendered it advantageous to translate this book, *Rock art science: the scientific study of palaeoart*, to provide guidance for the rapidly developing discipline in China. The translation was meticulously accomplished by Dr Jin Anni, who has worked extensively with author R. G. Bednarik in many Chinese provinces. Professor Tang Huisheng, Director of the International Centre of Rock Art Dating at Hebei Normal University, supervised the project.

The result is the volume 岩画科学—远古艺术的科学研究 (*Yanhua kexue — Yuangu yishu de kexue yanjiu*), published by Shaanxi People's Education Press (Shaanxi Xinhua Publishing & Media Group) in Xi'an (ISBN 978-7-5450-7619-6). In contrast to the two previous editions, limited to monochrome illustrations, the Chinese version contains numerous colour plates. It is hoped that its publication will further facilitate interest by our Chinese colleagues in scientific rather than traditional approaches to rock art.

Institutional subscriptions

Have you considered suggesting that your institution's library subscribe to *Rock Art Research*? We would be most grateful if you would take the time to do so. At $A25.00 per annum (plus air mail abroad), *RAR* remains the lowest-priced refereed archaeology or anthropology journal globally. Another way to help keep our subscription price low would be to sponsor someone's subscription, perhaps a colleague in a developing country.

IFRAO Report No. 64

Fourth AURA Congress and IFRAO-2024 Congress cancelled

After the previous issue of *RAR* went to press, it became evident that several Australian agencies I approached to collaborate with the proposed congress were unwilling to do so, would be unavailable to contribute to the event or would boycott it. This opposition derives from several political factors arising from my opposition to archaeological vandalism at Murujuga (Dampier Archipelago) and other rock art properties and my denunciation of the infiltration of university departments by corporate entities seeking to circumvent protective measures for cultural heritage, especially rock art. My espousal of Aboriginal control over indigenous cultural heritage had also made me enemies, as did my relentless and ultimately successful campaign to preserve the Dampier rock art. It thus became evident that my involvement with the congress would be an impediment to its success. I, therefore, offered to resign as Chairperson of the AURA Congress in April 2022 and invited the entire Australian membership of the Australian Rock Art Research Association Inc. to express interest in filling that position. Not a single proposal or expression of interest has since been received for the position of congress chairperson.

More important than this obstacle (which might have been overcome), the Fourth AURA Congress and IFRAO-2024 Congress were awarded to Perth, Western Australia, almost immediately after the favourable recommendations of the parliamentary inquiry into the flaws of the *Aboriginal Heritage Act 1972* were released. It was expected that the loophole in the protective legislation would be closed and the contentious Section 18 exemptions would be deleted. However, at the end of 2021, the *Aboriginal Cultural Heritage Bill 2021*, replacing the 1972 Act, was passed, retaining the Minister's power. Therefore, the congress would have effectively accepted funding from and held the event in a state where rock art sites could be legally destroyed.

Therefore, severe doubts had arisen about the suitability of Perth and of the University of Western Australia to host the premier academic event in rock art research. With profound regret and disappointment, I see myself compelled to cancel the Fourth AURA Congress and IFRAO-2024 Congress. Without anyone available to plan and organise such a significant academic event, it is impossible to proceed with it. Nor should it be held in Western Australia, whose government's only interest in rock art is in its tourism potential and which ignores the requests of its Traditional Custodians and the international conventions of cultural heritage protection.

I thank those parties who have submitted excellent symposium proposals for the congress. They have been advised of the circumstances and asked to save their offers for the next IFRAO Congress.

Robert G. Bednarik
Former Chairperson of the AURA Congress
RAR 39-1399

Gardajirri (northern Watering Cove), Murujuga, Dampier Archipelago, Western Australia.