



BRIEF REPORTS

Results from the first phase of rock art survey in the Swaga Swaga Game Reserve (Tanzania)

By MACIEJ GRZELCZYK

Swaga Swaga is a game reserve located in the Kondoia region of Tanzania. Its northern borders are about 30 km in a straight line from the Irangi Hills, an area under UNESCO protection due to the presence of over 200 sites with rock art there (Fig. 1). Below, I present a short summary of field research conducted from April to June 2018 in Swaga Swaga. The research was carried out in order to locate potential new places with rock art.

Swaga Swaga was an area virtually unrecognised in terms of rock paintings. Two previously known shelters with paintings were located near the only road leading through the reserve, and were discovered in the 1940s. H. A. Fosbrooke offered the location of four more sites (Fosbrooke 1950a, 1950b), but they could not be located; there are no shelters at the places indicated by him. The lack of previous research in Swaga Swaga was mainly due to the fact that it is a relatively hard-to-reach terrain and also inhabited by wild animals and numerous tsetse flies that transmitted African sleeping sickness in the past.

The research reported here led to the discovery of 52 previously unknown sites. The examined area can be estimated to be approximately 30–40% of Swaga Swaga's entire range. Photographic documentation and spherical panoramas were made in the shelters with paintings, which are particularly important when noticing the fact that all of the sites where the paintings are located are in places with a good view, e.g. of the valley or path leading to the shelter.

Of all 52 places, only four or five can be described as sites with paintings of good or very good degree of preservation; the rest were destroyed mainly by natural factors (e.g. flowing water) or modern drawings.

As an example of the destruction of the paintings as well as the change in the appearance of the pigment due to natural factors one can show the paintings at K'honx'oli 2a site (Fig. 2). One half of the panel is destroyed, while the other half is in very good condition. Currently, no communities live in the reserve, and human threat to paintings is posed by poachers who often camp and light fires at the sites. In order to better recognise the rocks and possible paintings on them, a mobile version of the DStretch application was used, allowing the detection of faded paintings.

There are paintings made with red pigment at all of the 52 documented sites, and at five of them there are also white paintings. Red paintings depict wildlife and human figures in 'hunting style' (Fig. 3), and

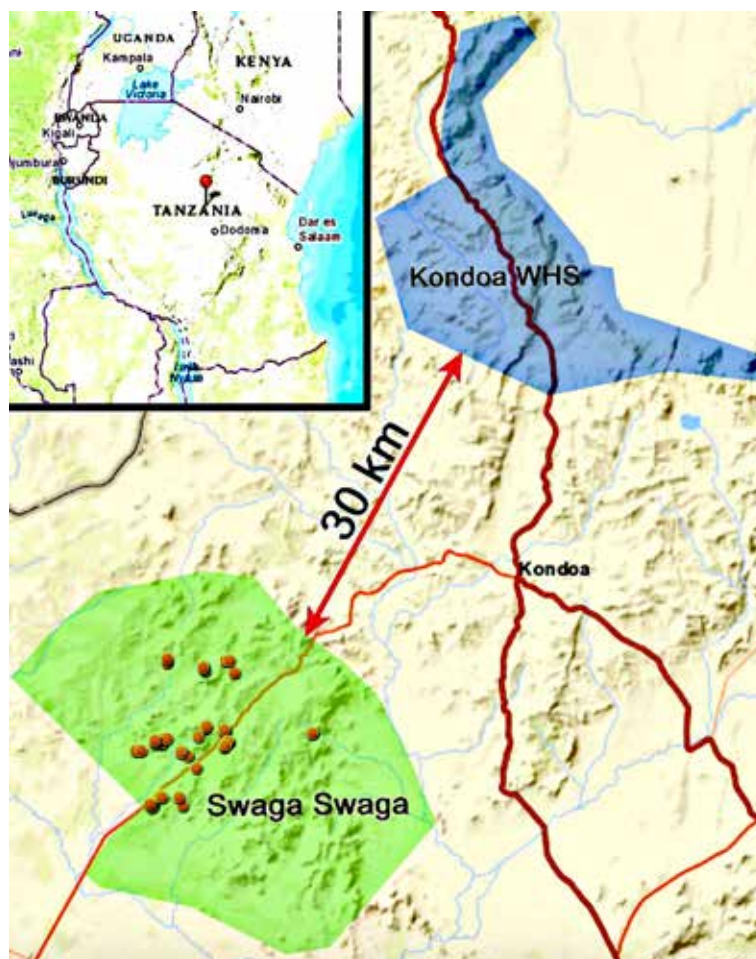


Figure 1. Map showing the locations of Swaga Swaga and Kondoia in Tanzania.



Figure 2. Half-destroyed painting, K'honx'oli 2a site, Swaga Swaga, Tanzania.

characters and scenes that could be perceived as images associated with mythology. White paintings, in turn, are limited to the images of animals, mainly 'elephants' and 'giraffes', which in most cases seem to be depicted during pregnancy (Fig. 4).



Figure 4. Example of white paintings, Bulali 3 site, Swaga Swaga.

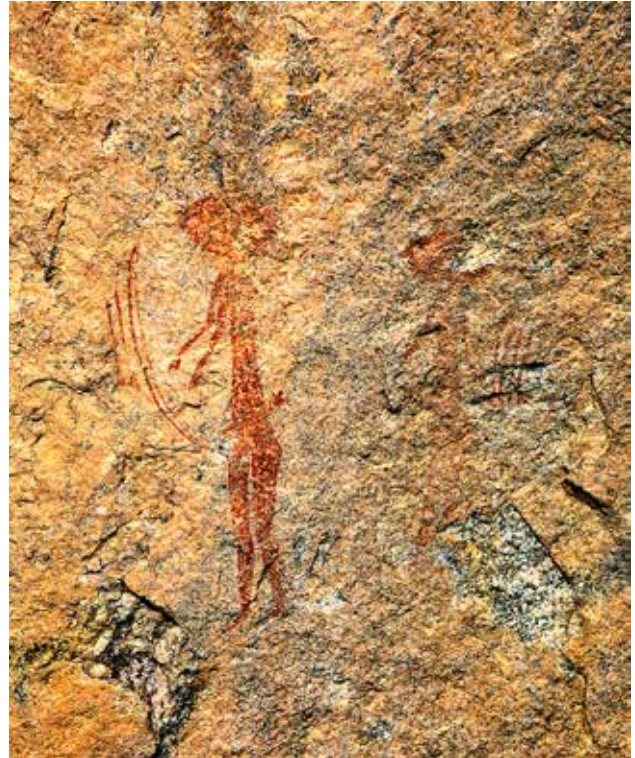


Figure 3. Example of red paintings, Mialo 1 site, Swaga Swaga.

One of the main elements found repeatedly in anthropomorphs are characteristically made heads of these figures. They are also numerous in nearby Kondoa World Heritage Site and according to some researchers, we are dealing there with a characteristic haircut or headdress (Leakey 1983: 52; Campbell and Coulson 2012: 10, 17). Paintings from one of the newly discovered sites, where we probably see a painting of a tree, suggest that perhaps some of these figures were stylised as trees, e.g. baobabs, which to this day among the descendants of the creators of the paintings (Sandawe population) are particularly important and 'life giving' trees. It is also noteworthy that in Sandawe mythology, both a rock-shelter and a baobab are places from which all beings came and life began.

Discoveries in Swaga Swaga prove that the area of rock art concentration in Kondoa region is much larger than it was previously thought, and clusters of sites are not limited to the Kondoa World Heritage area. Research on further recognition of rock-shelters from Swaga Swaga will be continued and may lead to a revision of theories regarding the perception of rock art in central Tanzania.

At present, the education of those working in Swaga Swaga Game Reserve, both office staff and guards,

seems crucial. They must learn about the new important aspect that is under their protection, and understand how not to destroy it.

Acknowledgments

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RAR 36-1300

Palaeoart microtopography

By JESUS E. CABRERA

This article is about the application of microtopography to study the physical interactions between palaeoart (e.g. painted stone tablet, cupule) and its support surface in three dimensions on a small scale. The handmade model MT1 microtopography system and the microtopography method are described to demonstrate that the system can be useful to palaeoart researchers currently limited by the costly 3D mapping or laser equipment. The need to find the critical relationship between a stone tablet surface, the painting and the conservation of the painted stone tablets of Pampacolca, Peru (Cabrera 2014) led the author to create a microtopography system to formulate a survey method reliable enough to map the painted tablet substrate or other rock art surface features. A map is a representation of part of the earth's surface (Zumberge and Rutford 1988: 43). A map that portrays the painted stone tablets' surface in three dimensions is of particular value to palaeoart researchers facing the need to define topography on a small scale, without access to expensive equipment. Similarly, microtopography of cupules is essential (Bednarik 2018).

Equipment

The configuration of the painted stone tablet substrate shown by means of contour lines was made with a specially designed, handmade, microtopography survey system. The microtopography model MT1 is a portable and mechanical system used to map a small movable specimen of mobiliary palaeoart. The model MT1 can be used on a platform to map immovable specimens such as cupules on irregular horizontal surfaces.

Name and function of each part:

1. Pedestals: consist of two metal posts of 1-5/8" diameter by 4-1/16" long with a 1/5" diameter by 1-5/16" long threaded nip.
 2. Lower cross bar: a horizontal 7-1/2" long, 1" wide and 1/8" thick aluminium bar attached to the pedestals. The calliper's beam (6) sits over it forming a 90° angle. At 3-3/4" from either end, in the middle, there is a hole 3/16" diameter, big enough to pass the depth measuring blade (8). The lower cross bar (2) and the pedestals (1) length are designed to fit a maximum of 4" long by 3" high painted specimen; however, they can be enlarged in order to fit a bigger specimen. For portable palaeoart, there is no need to make the pedestals longer because no painted stone tablet is thicker than 3". For a larger specimen, a longer lower and upper cross bars, with a 3/16" diameter holes every 1" along the main cross bar may be needed (Fig. 1).
 3. Upper cross bar: upper horizontal cross bar to hold the micro-calliper vertically.
 4. Calliper: the measuring equipment is a digimatic calliper, Model CD-12"C, made by Mitutoyo Corp. of Japan, with a display (LCD). Resolution: 0.01 mm or 0.0005"; accuracy: ±0.02 mm or ±0.0017±0.02 mm (100/150/200 mm or 4/6/8") +0.03 mm or ±0.00157±0.03 mm.
 5. Clamp: to hold the calliper in place.
 6. Beam: contains the main scale.
 7. Main scale: in millimetres and inches.
 8. Depth measuring blade.
 9. Vertical level: to set up the system vertical.
 10. Horizontal level: to set up the specimen holder horizontal.
 11. Specimen holder: flat and levelled surface. It has to be large enough to hold the specimen.
 12. Model MT1 system platform: transparent platform with levelling screws on each corner and with an opening facing the specimen under it.
- Set up:* the platform, specimen holder and the microtopography system must be perpendicular to each other in order to improve accuracy; thus, the vertical and horizontal level must be double checked. The measuring system and the painted stone tablet must be on the same flat and levelled surface. The normally rough underside of the painted stone tablet must be set in a fixed position to avoid waving but still allowing the specimen to slide.

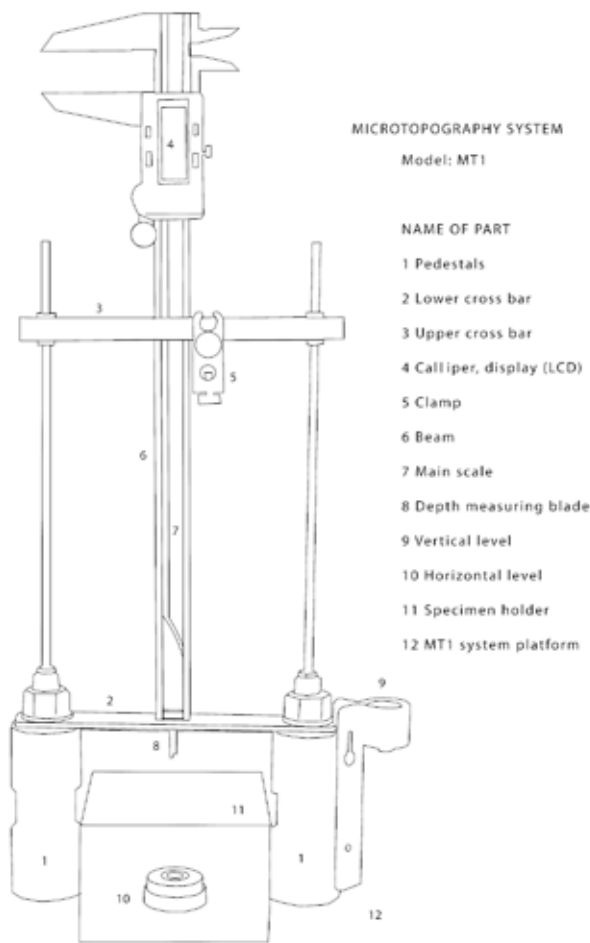


Figure 1. Microtopography system model MT1. Measures 20" high with a 12" long calliper, 9" wide and weights 5 lb. The height can be reduced to 14" with a 6" main scale long calliper. Note the bull eye (white) and vertical (orange) levels. Photo and diagram by JC.

Microtopography method

Slope stake-out: the reference points stake-out surveying field work was done systematically according to the substrate slope to determine its relief, which includes depressions, promontories and



Figure 2. High resolution photograph of the painted stone tablet from Peña Blanca, Pampacolca, to be used for plotting the data. IFRAO Standard Scale (mm).

plains. The grade, defined by depressions and promontories, was identified on the painted stone surface and on its high-resolution printed photograph. Basically, the surveyor visually chooses each stake-out point, according to the field slope and the required degree of detail, like on any land survey field work. The slope stake-out grid should be dense or positioned closely to reflect the interaction between the stone tablet substrate and the paint as this was the core of the research.

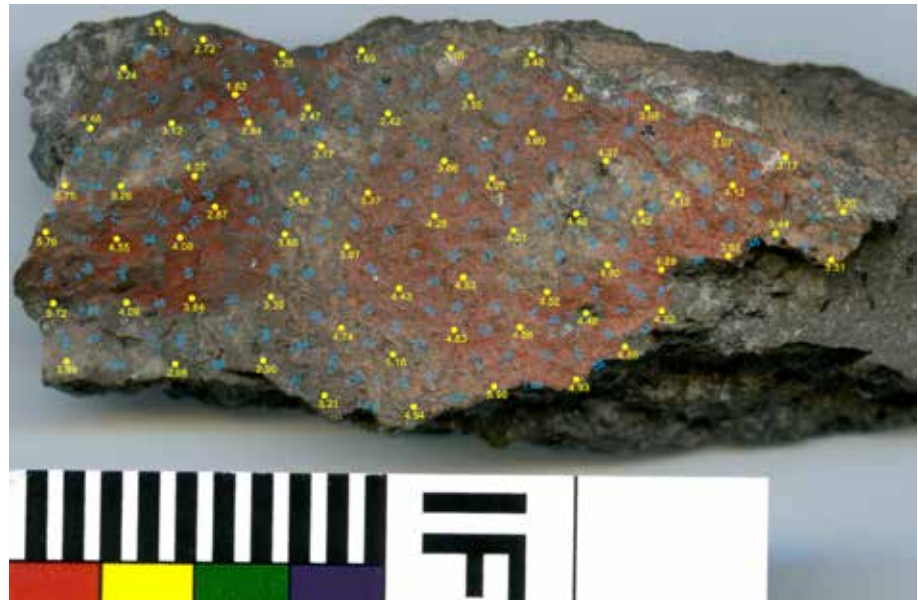
Co-ordinates are essential elements of a map. The system of meridians and parallels is not needed because the object is portable and movable. The points are plotted with some accuracy directly on the photograph.

The horizontal distance (b) between each slope stake-out point is measured on the high-resolution printed photograph with the millimetric IFRAO Standard Scale, the calliper or with the measuring tool in Adobe Acrobat.

Point	Distance from the main cross bar in mm	Elevation from an imaginary line (35 mm) on or under the lowest specimen point, mm	Notes
1	31.88	3.12 (31.88 – 35.00)	Edge of specimen
2	32.28	2.72	Boundary of paint
3	31.76	3.24	
28	33.72	1.28	Lowest point

Table 1. Data collection.

Figure 3 (on right). Data collection of 67 spots from a nonstandard micro-grid painted surface. The elevations of each point are yellow colour and the rises between two contiguous points are blue colour.



Contour interval: the value of each main and secondary contour interval is defined once all the elevations from an imaginary line, located on or under of the lowest elevation, are plotted on the photograph (Fig. 3). The following contour intervals were chosen to make the microtopographic map neat, without over- or under-loading with contour lines:

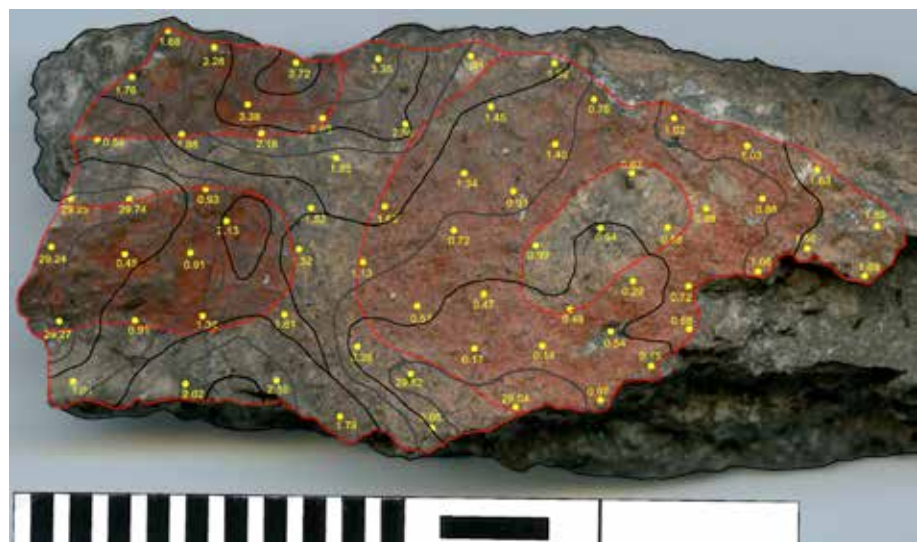
Results

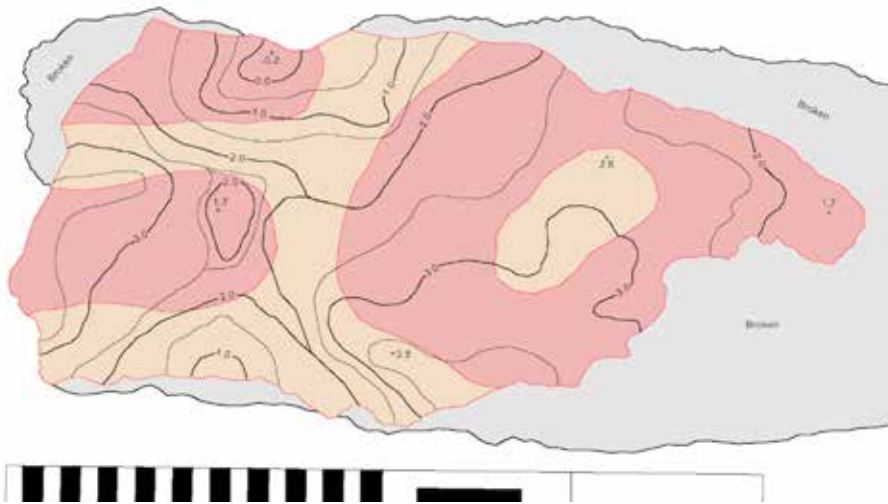
The depicted smoothness or ruggedness of a painted stone tablet, determined with the microtopography method, shows that its substrate can be accurately mapped to define the following:

- How a stone tablet was formed through natural fracture by geomorphic fissure and exfoliation process.
- How these natural geological processes helped in mining the tablets.
- How the analysis of the stone tablet substrate led the ancient painters to choose the right viscosity paint.

Contour line calculation formula	Proposed contour intervals
<p>Where b1, b2, b3 etc. are the values of the proposed contour lines.</p>	<p>Main contour lines: 0.00 mm, 1.00 mm, 2.00 mm and 3.00 mm.</p> <p>Secondary contour lines: 0.50 mm, 1.50 mm, 2.50 mm and 3.50 mm.</p>

Figure 4 (on right). Main contour lines (black), secondary contour lines (grey) and boundary of paint (red).





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Figure 5. Microtopography map of the subject painted stone tablet from Peña Blanca, Pampacolca. The best spots of preserved paint are in the lowest and deepest depressions.

- How the three preceding factors led to the conservation of the paints during the millennia.

Conclusions

The commonly used field surveying conveyed to microtopography can be useful in palaeoart research to map in three dimensions on a small scale.

The micro-mapped stone tablet relief was a defining factor to determine the viscosity of the paint used. The rough and hard to reach surface was painted with a low viscosity paint; meanwhile, the smooth and fine surface was painted with high viscosity paint; according to this research, the rough and hard to reach areas led to a better paint conservation and durability. It has been demonstrated that the painting and its conservation are in a direct relationship with the stone tablet substrate's physical properties.

Acknowledgments

This paper is dedicated to Lino T. Vera, brother of the author, mining engineer, for his passion to revive the how and why of the ancient palaeoart. The author would like to acknowledge the teaching and guidance of Professor Tjen Verheye, a Belgian geological engineer established in Peru since 1970.

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Natural or artificial: Fujian rock markings

By ROBERT G. BEDNARIK

Many years ago this journal featured a major paper dedicated to 'The discrimination of rock markings' (Bednarik 1994), the purpose of which was to provide guidance in the secure differentiation between natural and anthropogenic rock surface features. It presented a nomenclature dividing all rock markings into six classes, of which five are natural features and one defines rock markings occasioned by humans. The latter were subdivided into two types: those made accidentally or incidentally, such as by vehicles, steel cables or rock drilling equipment; and those made deliberately by humans, also known as 'rock art'. This brief report is intended to be a supplement to that paper, introducing a form of newly identified natural rock marking.

Just a few hundred metres off the coast of Fujian Region in China, near Dongshan in that state's far south, lies the small and picturesque island of Dong Men Yu. It consists essentially of piles of very heavily weathered granite tors and is covered by recently introduced vegetation, dominated by Australian species. The island has been developed into a tourist destination and features walking tracks leading to various rock formations. It provides also an excellent demonstration of the kinds of weathering phenomena so well known from granite, such as tafoni (Dragovich 1969; Martini 1978; Smith 1978) and deeply developed honeycomb weathering. However, one type of geological phenomenon found in various places has not been described before. Since it can easily be misinterpreted as rock art and is very likely to occur elsewhere in the world it deserves a clear definition.

The feature being described here presents itself as

a series of linear grooves that range from deep to shallow, that are of reasonably regular spacing and are arranged in a radial pattern. The arrangements occupy from one to three square metres each. It is their visual impact of the regularity and symmetry that invites interpretation as a humanly created, deliberate design (Fig. 1). Intention is perhaps further emphasised by the central feature, an amorphous shape of granite that seems to be of slightly different constitution. It is distinctly separated from the pronounced edge from which the radial grooves commence, and in various cases seems to have eroded completely (e.g. in the specimen of Fig. 1). It is easy to visualise this central feature as the Sun and the radial features as its rays. The example shown in Figure 1 is regarded as a very ancient Sun symbol. However, this kind of arrangement can be found in many other instances on the island and can be seen in any orientation. In some cases, the block in contact with the modified portion of the boulder features a distinct recess seemingly allowing the central feature to rest in it.

A typical aspect of the phenomenon is that the grooves are always wider and deeper where they commence from the distinctive, semicircular or arcuate edge surrounding the central feature. They may be as wide as 10–12 cm and almost as deep, but then decrease gradually in width with increasing distance from the edge. In many cases, these lines end in fine fissures, which in some cases may be up to 1.7 m long. These fissures, which are occasionally also discernible in the deeper and wider sections of the grooves, clearly indicate that the grooves were not made by human action, but that they are essentially weathering phenomena developed along weakened aspects of the rock fabric. This raises the question, what caused the radially arranged fissures and the modified contiguous zones? Similarly, what accounts for the rather amorphous, sometimes bulbous central feature that forms part of the overall phenomenon where it is not completely eroded?

It is proposed that these phenomena can be explained as the result of tribological effects (Bednarik 2019). These derive from massive impact as falling blocks collided with stationary ones in the geological past. In classical mechanics, kinetic energy (KE , in J) is equal to half of an object's mass ($1/2 m$) multiplied by the velocity squared:

$$KE = 0.5mv^2 \quad (1),$$

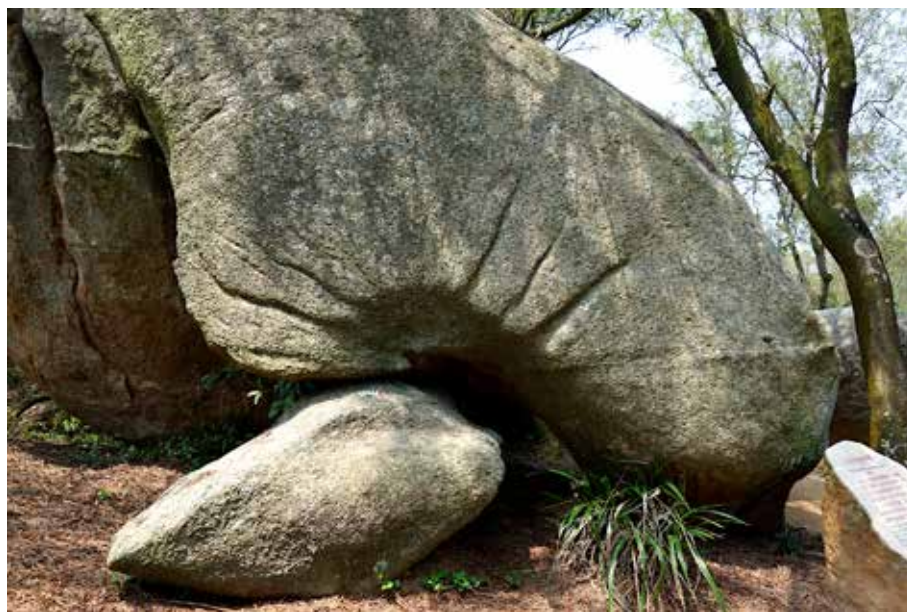


Figure 1. Rock markings on granite at Dong Men Yu Island near Dongshan, Fujian Region, China.

where m is mass in kg and v = velocity in m/sec. Therefore the kinetic energy of a falling block of dozens of tonnes amounts to tens of thousands of joules.

A suddenly applied impact load will result in structural responses significantly greater than for a load of the same magnitude but applied gradually. The kinetic energy of the moving block is transferred to the contact areas of the colliding objects. Each collision between granite blocks was accompanied by the release of kinetic energy. As an object falls from rest, its gravitational potential energy is converted to kinetic energy. The shock waves propagated by the impact travel through both objects affected by it, matter is compressed, pressure will be vastly increased and there will be a rise in temperature. As a result of the deformations and vibrations induced in the struck object, sound energy will also be released. However, most of the applied force is absorbed by the material struck, which behaves as if it were more brittle than it would otherwise be. The shock waves travel in circular or arcuate patterns (Fig. 2), compressing the rock until resisted by the inertia of the impacted rock mass (Gong et al. 2012). A crushed zone develops in the vicinity of the impact area, forming an arc or partial circle centred on the point of impact. The tensile tail of the propagating pressure wave then causes radial fractures to spread from the edge of the zone crushed by com-

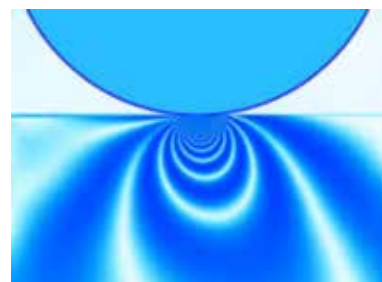


Figure 2. Stresses in a contact area with slight tangentiality, rendered visible by photoelasticity.

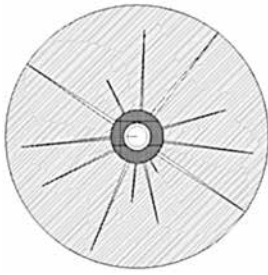


Figure 3. Affected zones in a rock mass under the action of explosives. The dark area represents the crushed zone, and the radial tension fractures extend well beyond it (after Guerra et al. 2013).

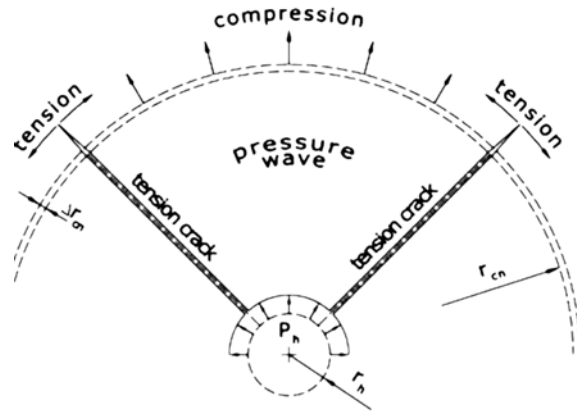


Figure 4. Schematic depiction of radial tension fractures formation (after Torbica and Lapčević 2018).

pressive force. These result from the expansion of matter in the deformed zone. The lengths of these fissures are determined by the respective crack velocities: the higher the crack velocity the greater the extent of the radial fracture. The size of the crushed zone and the length of the radial fractures depend on their peak pressure and frequen-

cy. The remaining kinetic energy is dissipated in tensile stress responding to the deformation of the already modified rock mass impacting on the otherwise unaltered rock. The linear fractures arise as in any rock subjected to impact (Giacomini et al. 2009), but their layout is governed by the distinctive outer boundary of the arcuate zone of deformation.

Since the mechanism of this geological process has not been described before we have in explaining it drawn on the well-understood effects of explosives on rock (McHugh 1983; Donzé et al. 1997; Esen et al. 2003; Banadaki

and Mohanty 2012; Guerra et al. 2013; Torbica and Lapčević 2014, 2018). Despite the differences between surficial kinetic impact versus blasting, the underlying principles are similar. In the latter case, the effects form a circular pattern because the source of the shock is embedded within the rock (Fig. 3). The collision of blocks impacts on their surfaces; therefore the pattern represents only a partial circle (Fig. 4; cf. Fig. 1). There are, however, two hypotheses explaining the relationship between the crushed zone and the radial cracks in the effects of explosives. The dominant version perceives the radial cracks as projecting well beyond the limit of the central crushed zone. Guerra et al. (2013), in contrast, present experimental evidence showing that the location of propagating crack tips trails significantly behind the shock wave in Plexiglas cubes. However, the phenomenon presented here confirms that the stress fractures extend far beyond the zone of central deformation and we suggest that Plexiglas may not be a suitable material to replicate the process correctly.

The parts of the radial fissures that are nearest to the sharply delineated arc is also accompanied by zones of deformed rock fabric. These become narrow progressively with increasing distance from the arc until the fractures continue without weakened zones. These zones of deformation were subjected to increased rates of weathering, relative to the unaffected rock. The large zone within the distinctive arcuate depression has been weathered to an amorphous shape, while the weakened zones along the radial fissures have weathered to deep and wide, mostly V-shaped grooves (Fig. 5). All eroded surfaces, however, now present deeply weathered characteristics, suggesting that the impacts occurred in the geologically distant past.

The phenomena observed on Fujian granite are thus explained fully. They present features easily perceived as anthropogenic creations, but they are fully

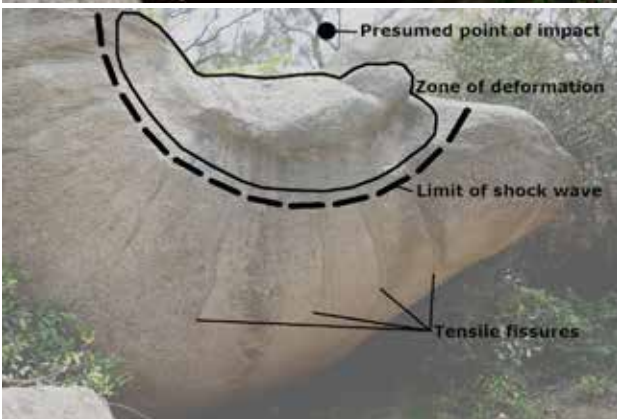


Figure 5. A second arrangement of rock markings on Dong Men Yu Island, with an interpretation of main features.



Figure 6. A third specimen from the site, showing clear separation of the identified zones.

natural phenomena and they are far too ancient to be humanly made. At the time the impacts occurred, the features would have been hardly noticeable. They only became visually as distinctive as they are today through selective weathering, which eroded the modified rock at much greater rates. Therefore, in the taxonomy of rock surface markings (Bednarik 1994), they belong to the category GP2, *naturally enhanced inherent markings* (cf. also Bednarik 2007: 18–20). It is proposed that this newly recognised phenomenon be named ‘*compressive-tensile rock markings*’ (Fig. 6).

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RAR 36-1302

Niah cupules discovered in 2012 and 2014 are subject of ongoing research: reply to Zhang

By PAUL S. C. TAÇON, MOHAMMAD SHERMAN SAUFFI, IPOI DATAN and DARREN CURNOE

Since 2010, we have been conducting collaborative archaeological research in Sarawak (Malaysian Borneo), with a focus on better understanding rock art and palaeoanthropological remains, under various permits, MOUs and agreements between our institutions. It began with three of us (ID, MSS and PT) visiting various sites in June and October 2010 and mapping out a long-term research strategy. DC joined the team in 2011. Research has since been undertaken throughout the Niah Caves complex, at Gua Sireh, at Santubong



Figure 1. An elaborate landscape scene apparently depicting the sun, mountains, a house, trees and other vegetation scratched into a boulder far from the tourist trail within the Niah Caves complex, presumably made by bird nest collectors.

and other field locations, as well as with the Sarawak Museum collections and archives. This has led to new discoveries and insights detailed in publications (e.g. Taçon et al. 2010; Taçon 2013; Curnoe et al. 2016a, 2016b, 2018, 2019a, 2019b), unpublished reports (e.g. Taçon and Curnoe 2012; Taçon and Sauffi 2019a, 2019b) and numerous conference papers and posters presented between 2010 and 2019 (including the 2010 Borneo Archaeology Conference). We also collaborated on the development of a 2013 rock art exhibition and associated symposium (see Taçon 2016: 257–259). Research is ongoing with new rock art survey and recording as well as excavations led by DC and MSS. During this period Rachel Hoerman also conducted rock art research in Sarawak for her PhD thesis in collaboration with Sarawak Museum staff and under PT's supervision (see Hoerman 2016) and she made further rock art discoveries.

In the May 2019 issue of *Rock Art Research* Zhang (2019) reports discovering cupules in 'Black Cloth Cave' but we 'discovered' the cupules she refers to in 2012 (Taçon and Curnoe 2012: 4–6) and others in 2014. First of all, the name of the cave Zhang refers to is Lobang Hangan rather than 'Black Cloth Cave'. Black Cloth Cave is the translation of Kain Hitam, another name for Painted Cave, the best known part of the Niah Caves complex for rock art. It was 'traditionally called Kain Hitam or "Black Cloth", because of a local tradition that a Punan forager sold it to a Brunei Malay for a piece of black cloth. Today it is usually referred to as the "Painted Cave" from paintings on its walls' (Barker 2013: 4–5). However, Barbara Harrisson (2016: S18–S19) suggests the name relates to a burial ritual involving the distribution of black cloth.

Secondly, Zhang (2019: 114) states 'Since the British scholar Tom Harrison excavated and researched Santubong River Delta and Niah Cave from 1957 to 1967,

there have not been any reports or research on these cupules'. If Zhang had consulted the Sarawak Museum, as is required when archaeological research is to be conducted in Sarawak, it would have been evident that a new discovery had not been made and that the rock art of the Niah Caves complex, including cupules, was the subject of ongoing research with Australian Research Council funding and Sarawak State Planning Unit permit (4) JKM/SPU/608-8/2/2 Vol 3. In our 2012 report we stated 'Time did not permit the documentation of the cupule boulders but it is proposed that this be part of a future PERAHU – Sarawak Museum collaborative research project' (2012: 4) and the cupules were subsequently referred to in grant applications, although it took a while before we successfully obtained funding.

Besides cupules, we have been documenting other petroglyphs, further painted rock art in Painted Cave, traditional Iban designs in Traders Cave, recent large paintings of faces in various locations within the Niah Caves complex and other Mount Subis caves, as well as elaborate scenes scratched into the rock presumably by bird nest collectors (Fig. 1). We are also producing site histories for the most significant sites available for tourist visitation (Taçon and Sauffi 2019a, 2019b), developing conservation and management plans, making 3D records (with Andrea Jalandoni, PERAHU, Griffith University, Queensland) and analysing pigment with pXRF (with Jillian Huntley, PERAHU, Griffith University, Queensland). DC and MSS are also leading an international team that continues excavations in Traders Cave that commenced in 2017. Major publications with full details will be available after field research is completed in late 2020 and results of our research will enhance new exhibits in the redeveloped Sarawak Museum that is planned to open to the public in late 2020.

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RAR 36-1303

Rock paintings and dendroglyphs: Aeneas Gunn in north-west Australia

By MICHAEL P. RAINSBURY

Aeneas Gunn (1862–1903) is best known today as a literary figure from pioneering days in Australia's Northern Territory, as described in his wife Jeannie's book *We of the Never-Never* (1908). Gunn travelled across northern Australia during the frontier days and was later employed as a librarian in Prahran, Victoria, where he wrote newspaper articles on his life of a few years earlier working with his cousin, Joseph Bradshaw (Willing and Kenneally 2002). Bradshaw undertook a pioneering expedition into the Kimberley of Western Australia and established a short-lived station there before moving to the Victoria River in the Northern Territory (Lewis 2012). This account discusses one of Gunn's newspaper articles from 1896, which he illustrated with line drawings of rock art and dendroglyphs, some of the first published in newsprint (Explorer 1896).

During the frenzy of Kimberley land speculation of the 1880s, Melbourne pastoralist Joseph Bradshaw (1854–1916) leased a million acres of land (404 858 ha), sight unseen, on the banks of the Prince Regent River. In March 1891 he trekked cross-country from Wyndham to view his new purchase. On his return to Melbourne he presented his geographical discoveries and anthropological observations to the Royal Geographical Society of Australasia on 10th September 1891, 'Notes on a recent trip to Prince Regent's River' (Bradshaw 1892; Rainsbury 2013, 2014) and a week later, 'The future of north Australia' (Kenneally 2012: 149). Afterwards, Bradshaw sailed aboard his newly purchased boat, *The Twins*, to his lease on the Prince Regent River along with his new bride Mary.

Amongst the party was Bradshaw's younger cousin Aeneas Gunn and the two men worked closely together for the next four years. Gunn helped establish the new station at Marigui (Willing and Kenneally 2002: 25). The



Figure 1. Gunn's 'The spotted devil of the Wahgomerahs. Carved on a baobab tree. Saint George Basin, Prince Regent River' (Explorer 1896: 6).

party examined their new lease and Gunn described finding Aboriginal art and carvings on boab trees (Explorer 1896, see Fig. 1, also 1899 in Willing and Kenneally 2002: 31, 39). He also made his own mark by engraving his name on one (Kenneally 2012: 140). The following year in September 1892, Bradshaw consolidated his holding by reducing his lease on Marigui to 100 000 acres (40 484 ha) and a month later leased 150 000 acres (60 726 ha) at Napier Broome Bay, lease number 71/237 (Willing and Kenneally 2002: 7). Bradshaw never settled there but his Marigui party undertook exploratory trips to the area.

Gunn wrote of finding rock art in the Sir Frederick Hills and at Rainy Cove. Again he left his mark by carving his name into a boab tree.

The Prince Regent lease was not a success. The final deciding factor was the 1893 imposition of a Western Australian tax on livestock brought into the state. Bradshaw decamped to the Northern Territory and leased land on the Victoria River in 1894. This station became known as 'Bradshaw's Run' (Lewis 2012: 165; Willing and Kenneally 2002: 7), and Gunn and the other members of Marigui station joined him to help run it. Gunn spent a year there, exploring the country and finding another dendroglyph (Fig. 2) prior to leaving due to ill health. The lease on Napier Broome Bay was offered for auction in 1894 but went unsold at the time. It appears to have been bought later for the establishment of Drysdale River Mission at Pago in 1908.



Figure 2. 'Native carvings on a baobab tree, Shoal Reach, Victoria River, Northern Territory' (Explorer 1896: 6).

Aeneas Gunn's 1896 article is written under the *nom de plume* 'Explorer' (Explorer 1896) and is spread across two pages of Melbourne's *The Leader* newspaper. It contains two photographs of Arnhem Land Aboriginal people and eight line drawings, six being of 'art' and two illustrating both sides of a message stick. The drawings, bar one, are from the Kimberley. Gunn's first column (1896: 6) concerns his description and opinions on Aboriginal people. His second column (1896: 7), *Some recent discoveries*, is of more interest. Gunn speculates that 'if ... the localities from which our aboriginals first emigrated is to be discovered, it will be done through the medium of these carvings and paintings, assisted by a close analysis of the numerous tribal languages'. He wrote that the art was almost all found in caves used as wet season camps and this

fact is attested by the pile of decayed and decaying kangaroo and emu bones, cockle and oyster shells, turtle backs and baobab nut husks and other refuse heaved up outside the openings. The rocks round the paintings are often browned and blacked with the soot and smoke of many fires, and the sandstone slabs forming the floors of these recesses are smoothed and polished by the bare feet and naked bodies of untold generations of the Australian cave dwellers (Explorer 1896: 7).

Gunn described the body of rock art discovered and the superimpositions over earlier paintings:

Many of the rocks constituting the sides and roofs of the caves are plastered with paintings of an infinite variety of natural objects, and many objects that are not natural. Hand, feet, heads and skeletons are painted over and partly obliterate each other. Frequently meaningless patches of brown, yellow, black, red or white pigments are daubed over pictures that form the small parts left visible seem to have some pretension to unique beauty of design, and the artists of one generation often destroy the paintings of preceding ones (Explorer 1896: 7).

Gunn's images will be discussed geographically from the Prince Regent River in the west to the Victoria River in the east. His first figure is a dendroglyph 'carved on a baobab tree' (Fig. 1) at Saint George Basin near the Prince Regent River. Portrayed with a bald head, big ears and prominent penis, this is recognisable as a devil figure, most likely an *Argula* (see Layton 1992: 84–85).

Crawford (1968: 128) discussed the practice of carving figures into bark and filling the cut with pigment or re-engraving old designs, and Gunn also remarked on the ease of cutting into the short-grained bark. As for the figure he named it 'the spotted devil of the Wahgomerahs' and said it was an 'ancient picture of ill' (Explorer 1896: 7). Gunn wondered if the figure was connected to a circle of stones on a small island directly offshore and opposite the boab. The figure itself is 'battered and bruised' with parts being blurred and indistinct, so causing him to speculate on its antiquity. He compared it to Philip Parker King's inscription at Careening Cove where the lettering was still clear and legible after seventy-six years, the implication being that the 'spotted devil' itself was much older. Accounts

of other Australian dendroglyphs were published in a contemporaneous article by R. H. Mathews (1896).

Gunn's Wahgomerahs were identified as the Wunbanguwaja eighty years later and by then contained an old man as the sole remnant of the clan (Blundell 1975 in Willing and Kenneally 2002: 44). Their lands occupied the coast and islands of St. George Basin with their painted sites said to be on St. Andrew Island.

Moving east to Napier Broome Bay and Bradshaw's second lease, Gunn has illustrated two figures from the Sir Frederick Hills. Fig. 3a is a Wandjina, though Gunn does not call it that (Akerman 2016: 6). He just states it is a figure painted in brown, red and white and found in a cave. This is recognisably the figure used by Crawford (1968) as his front plate, and there is little difference between the two drawings over seventy-five or so years. Fig. 3b is a composition of hands, snake, fish and shield.

Still at Napier Broome Bay but at a location Gunn calls Rainy Cove are two rock art panels. The first, Fig. 4a, is of a group of seven figures, the central one in outline with a distinctive headdress. The second panel, Fig. 5a, is of a human-like red-painted figure.

Gunn's Rainy Cove figures are of interest as they have also been recorded by later visitors to the area, such as the monks of Drysdale River Mission and the Frobenius Expedition. In 1908 Drysdale River Mission was founded at Pago, Mission Cove on Napier Broome Bay, and occupied Bradshaw's former lease. Gunn's presence at Napier Broome Bay was confirmed a few years later when the newly founded Mission discovered a boab tree carved with his name and date (in roman numerals), 'AE Gunn 19/12/1892'. In 1909 Father Nicholas d'Emo commenced recording rock art (D'Emo n.d., Rainsbury 2017). Fig. 4b is d'Emo's rendition of what he named 'the group of seven devils'. The site is north of the Mission and the panel stated as being 15" x 6.5" (38 x 16.5 cm) in size. Thirty years later the Frobenius Institute's Expedition 22 arrived in the area and photographed the same panel (Fig. 4c). Here the site is named as

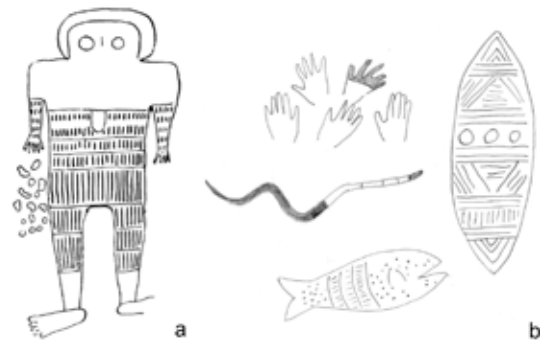


Figure 3. Rock art from the Sir Frederick Hills, Napier Broome Bay (Explorer 1896: 6-7).



Figure 4. (a) Gunn: 'Group of native paintings in cave at Rainy Cove' (Explorer 1896: 6). (b) d'Emo: Plate 12 (panel 14) from Cave 57. 'The group of the seven devils' (image by permission of Western Australia Museum). (c) Frobenius Expedition F19-VI Langanana. 'Recent picture of one of the fathers taking some of the children for a walk.' Photograph rotated ninety degrees clockwise (State Library of Western Australia F19-VI).



Figure 5. (a) Gunn. 'Figure painted in red in cave at Rainy Cove' (Explorer 1896: 6). (b) D'Emo, Plate 21 (Panel 23) Cave X (image by permission of Western Australia Museum). (c) Frobenius Expedition F19-IV Langanana. 'Dzala-woman, a sort of female wandjina'. (State Library of Western Australia F19-IV).

Langanana and is a 'Recent picture of one of the fathers taking some of the children [from the Mission] for a walk' (Petri et al. 1939).

In Fig. 5b d'Emo has painted what he describes as a baby, three feet four inches long (101 cm), again found to the north of the Mission; painted on the roof of a cave he regards it as being an old painting. The Frobenius Expedition photographed the figure (Fig. 5c) and described it as a 'Dzala-woman, a sort of female wandjina' (Petri et al. 1939).

Both Gunn's and d'Emo's renditions compare well with the later photographs and show there has been little observable weathering in the intervening forty or so years.

Gunn's last drawing is a dendroglyph from the Victoria River in the Northern Territory. This is found at Shoal Reach, at the south-west boundary of Bradshaw's Run on the river (Lewis 2012: Map 8). It shows a macropod, bird, human, geometric figures along with a possible crocodile or lizard apparently impaled by spears.

Aeneas Gunn left Bradshaw's Run due to ill health in late 1895 and returned to Victoria. In 1898 he was employed as librarian for the City of Prahran. He married Jeannie Taylor in 1901 and the newly-weds travelled to Darwin and onto the Roper River where he was to be the manager of Elsey Station. In March 1903 he died of malarial dysentery (Willing and Kenneally 2002: 9–10). Joseph Bradshaw died in 1916 of complications due to gangrene and surgery leading to the loss of his foot.

Gunn later found fame posthumously as 'The Meluka', through his wife Jeannie's book, *We of the Never-Never*, based on their experiences at Elsey Station (Gunn 1908). During his time as librarian Gunn published twenty-four articles on *Pioneering in northern Australia* in *The Prahran Telegraph* in 1899 alone, with further columns printed in the following two years (Willing and Kenneally 2002: 9). The wealth of Aeneas Gunn's writing lay unknown for a century until rediscovered by Tim Willing and Kevin Kenneally for their research into the settlement at Marigui (2002).

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RAR REVIEW

The White Lady and Atlantis, Ophir and Great Zimbabwe: investigation of an archaeological myth, by JEAN-LOÏC LE QUELLEC. 2016. Archaeopress, Oxford, 319 pages, illustrated in colour, softcover, ISBN 978-1-78491-470-7.

Flaws of greatness: the abbé Breuil and rushing to judgement

A book review by Duncan Caldwell

Le Quellec's exposé of a pernicious set of archaeological myths is so compelling that it seems out of place beside the site reports and drier tomes in my library. It is such a well-written and cautionary tale about the ways that archaeological observations were once hijacked and commercialised in the service of racism and colonialism that it's a major work of intellectual and cultural history. Although it's often as fast-paced as *King Solomon's Mines* and other adventure stories of the Lost World genre (which the author shows distorted both the observations and common sense of one of the most influential prehistorians of the 20th century, the abbé Breuil), this investigation is so well-researched that it should satisfy everyone from scholars who demand precision to laymen who want to follow and test every link in an argument.

It's also a detective story travelling into one of the darkest hearts of Western culture — a place that spawned myths about lascivious white queens threatened by the very black 'savages' they (naturally) ruled, and about fictitious Phoenician, Cretan and Egyptian colonisers, whose supposed presence in southern Africa long before the *voortrekkers* became a foundation myth for European settlers looking for historical precedents on which to base their claims. What could be more cogent at a time when scientific findings are routinely denied or distorted in the service of religious and political hucksters (and the powers behind them) than this tale of one of the twentieth century's greatest scientific minds — Breuil's — bending under the weight of his own prejudices and those of his companion, Mary Boyle, and host, Field Marshal Jan Smuts — the leader of South Africa — who realised that Breuil's 'discovery' of a pre-Historic 'White Lady' near the southern tip of the continent could elevate tales of early white dominance there to accepted dogma?

Le Quellec is far kinder to Breuil in his conclusions,

though, than he was to many of the authors of archaeological nonsense in another of his books on the subject, *Des Martiens au Sahara: chroniques d'archéologie romantique* (Le Quellec 2009), where he took no prisoners and mauled his gallery of fools and conmen with wit and erudition. I almost felt that he was letting Breuil off too easily when he suggested, towards the end, that the abbé was simply influenced by his milieu and had become increasingly vulnerable to being manipulated as he lost his sight and judgement (pp. 247, 251).

The reason it was hard to be quite so indulgent is that Le Quellec also shows how Breuil ignored repeated warnings from rock art experts, ethnographers and prehistorians (including Dorothea Bleek, Lawrence G. Green, Clarence Van Riet Lowe, John F. Schofield, K. R. Robinson and Revil Mason) that the rupestrian figure, which the abbé had interpreted as a 'white woman, Diana-Isis' (pp. 47), fit indigenous practices and rock art traditions — and might even be male (*more on this later*). So this isn't just the tale of a faltering 'expert' becoming the inevitable creature of his age (if I may be permitted a pun) — it is also one with heroes who rose above current prejudices by keeping and even stretching their critical faculties, adding an equally important moral to this tale.

I also had trouble forgiving Breuil — or rather Breuil and his co-author and consort, Mary Boyle — for other reasons after reading this damning account. These include the fact that they denigrated the painting's real discoverer, Reinhard Maack, tried to divert credit for the discovery — in the sense of 'properly' interpreting it — towards themselves, and dismissed their critics with such irrelevant arguments as Breuil's innuendo that Van Riet Lowe was just being spiteful because he'd been jilted (p. 84) — apparently by Mary, who'd implicitly stuck with the better man (even if that man was a Catholic cleric). The story just gets steamier and seamier by the page as Mary Boyle turns out to be the real white queen of this strange tale.

I could not wait to find out what happened next as Le Quellec gave almost every culprit in the book — and there are many — plenty of rope to hang themselves in the form of uninterrupted quotes. Hence, we hear Breuil and his companion claiming that Maack found the 'White Lady' and its surrounding paintings 'quite by chance' (p. 31), when Maack's notes show that he was actually 'in a hurry to explore new areas' for 'paleolithic and bushman shelters' ... 'where one finds

parietal paintings' when he found the panel (pp. 19, 21). As if that weren't bad enough, Breuil belittles Maack by saying the German chanced on the shelter while rushing to reach water and civilisation; and then entered it just to sleep in the shade, which he must have wanted a lot of, since Breuil goes on to claim that Maack didn't wake up till morning (p. 68). To top it off, Breuil says Maack didn't even notice the paintings till he finally awoke, making Maack sound blind to the possibility of art in such a shelter — when, in fact, Maack fell behind his companions in an effort to explore every last cavity, squirmed into the entrance to look for art, saw it immediately, and instantly erupted from the rock pile to shout until his friends turned back.

After stooping to such lies, Breuil goes on to dismiss Maack's 'appalling' rendering as a 'poor crude drawing ... made by a German' (pp. 80, 56), although Maack's sketches were actually more faithful in some details than Breuil's laborious tracings. As if that were not bad enough, Le Quellec demonstrates that Breuil even took credit for any fame Maack achieved with the words 'thanks to my intervention, I made him celebrated 30 years after his discovery' (p. 68). Talk about the sin of pride!

Breuil's high opinion of himself as a gatekeeper and mandarin comes through again both when he prefaces his remarks by saying 'it goes without saying' (p. 80) and when he puts such critics as Schofield in their place by claiming the support of 'other' — unnamed — 'persons of distinction' (p. 83) against such upstarts. No wonder he was nicknamed the 'pope of prehistory'!

But Le Quellec's book makes clear that Breuil also shared a corrosive mix of racism and prurience with many of his white contemporaries. The racist element seeps through when the abbé insists that the 'White Lady' had to have been made by colonisers from around the Mediterranean because it was 'markedly superior to the art produced by local African people' (p. 50) while his fantasies crop up when he imagines his ancient white pioneers 'recruiting their (black) women ... after a few scuffles/skirmishes' (p. 51). Such musings about civilised white colonisers trafficking in women (p. 132) or being overwhelmed by black brutes were so insidious that they even reversed the supposed course of art from Europe, where Breuil thought Palaeolithic art had increased in finesse, to Black Africa, where he thought pre-Historic art had regressed (p. 49).

But the strange thing is that Breuil wasn't the first person to usurp credit for an archaeological discovery in southern Africa. Le Quellec goes on to recount how a man named Karl Gottlieb Mauch permitted himself 'to be somewhat proud' of his discovery of the ruins at Great Zimbabwe, although he had to admit that he had been taken there by a fellow white named Adam Render, whom he dismissed along with the black natives by saying that he'd outsmarted them all by getting them drunk (pp. 102–103). Le Quellec does a remarkable job of showing how the appropriation of such discoveries by Breuil and Mauch paralleled the

way racists, colonists and Biblical fundamentalists used such 'discoveries' to advance delusions about ancient white colonies in the area. For example, the Bible places a gold-rich land called Ophir and the boats that went there on the land-locked Red Sea (before boasting that the quantity which was brought back was both immeasurable and a precise amount). But Christian fundamentalists have found candidates for the land (and its gold, which seems to tempt believers into orgies of greed) all over the world, including, of course, Great Zimbabwe (pp. 106–107). Having determined that the Bible mentioned southern African gold, they have taken the identification as a mandate to extract the gold themselves.

The audacity of colonial propagandists was just as self-serving. Not only did such a writer as H. Rider Haggard fantasise about beleaguered colonists from the Mediterranean Basin trying to hold onto wondrous constructions in the heart of Africa, but he even deigned to say that the mythical colonists, whom he thought were Phoenicians, were the English of their time — except for their lack of English honour (p. 111). When an archaeologist named David Randall-MacIver dared to dispute the association of the ruins with the Queen of Sheba by showing that they had been built by local Africans during the European Middle Ages, the co-founder of an engineering firm involved in gold mining, Harold Clarkson Fletcher, expressed the opinion of many colonists when he declared 'I was so historically offended' by the notion that such ruins could have been built by blacks 'that I never wanted to go near the place' (pp. 113–114).

As late as the mid-1960s, hack writers were still dismissing the attributions of the 'White Lady' and Great Zimbabwe to natives, although archaeologists had already contextualised both the rock art, by finding tens of thousands of other paintings made by Bushmen in southern Africa, and the ruins by dating them with carbon 14 (p. 255). One of these authors even had the audacity to dismiss the ¹⁴C dating as being the work of a 'politico-archaeologist', as if he wasn't the one usurping a find for political purposes. As Le Quellec makes clear, the implication of such fabricators was always the same: if blacks destroyed a white civilisation in southern Africa, then they deserved to be taught a lesson and even be supplanted.

One of the most egregious expressions of such racial arrogance and self-aggrandisement is found in Cecil Rhodes' remark that 'We are the finest race and the more we expand the better ...' (p. 111) — in other words, from the Cape to Cairo, following in the footsteps of those ancient colonists, who had supposedly staked out the length of Africa — or rather, the world — for modern white successors. For the book shows how similar myths were used by advocates for white expansionism from North Africa, which colonial mythologisers claimed was the site of Atlantis (making it somehow right in their minds for Europeans to 're-possess' it from Berbers (p. 182), to the American

heartland, where Phoenician, Egyptian, Semitic, Viking and Celtic explorers had supposedly staked implicit claims for fraternal white colonists centuries later (p. 111). What's incredible is that all this comic-book nonsense about Atlantis, Ophir and other lost worlds isn't even based on the distortion of finds, but on febrile speculations about myths, which puts us into the realm of myths squared.

I wish I could say that books like Le Quellec's were no longer necessary, because the public has learned to recognise when belligerent scammers have bent facts and myths out of shape in an attempt to lure people into participating in their greedy schemes. But I can't. I wish I could also say I thought such well-researched books would change enough minds to make a difference in an age when a large percentage of the population actually believes the scammers when they scream that fact-checkers are the ones generating 'fake news'. But, once again, I can't. All I can do is hope to persuade you, my reader, to arm yourself with such texts, so you can continue to fight hard for integrity and reason.

Sure, I could find faults with the book under review — little things like typos on pages 57, 61, 103, 145, 159, 214, 229, 239 and 243 — but Paul Bahn's translation is so smooth and natural that it's hard to believe the text wasn't originally written in English. That quality is largely due to the nature of Le Quellec's writing in French, which is so impassioned and colloquial when he's trying to free archaeology of its parasites that it's far closer to the natural rhythms of speech than the phraseology of academia. For the author — who is both an archaeological and mythological expert — is on a crusade to debunk myths that exploit pseudo-scientific credentials by pointing out everything from their methodological flaws to their crass dishonesty.

But now we must pause, for any heartfelt and headlong fight in the service of a just cause risks falling into lapses, excesses and contradictions. The rest of this essay might seem like nit-picking, since it will deal with flaws that hardly ripple the book's surface, but I hope to show that they add up to a case for paying attention to the risks of rushing to judgement both in Breuil's time and our own.

One lapse in Le Quellec's book is so tiny that it actually appears in a footnote (36 on page 25), but it is so troubling, that I'll zoom in on it for a moment. The note is about Altamira's paintings, but it fails to even mention their discoverer, Marcelino Sanz de Sautuola, or that Emile Cartailhac was the mandarin who brought de Sautuola into disrepute by implying that he was a crank and forger, although the effusive note says that Cartailhac's 'recognition of their authenticity ... and then the publication of the great monograph produced by this same author with the abbé Breuil ... destroyed the final resistance by their contemporaries to the very possibility of a prehistoric art'.

Despite the fact that French writers used to exalt Cartailhac's *Mea culpa* d'un sceptique, which appeared in 1902, for its heroically self-effacing apology (please

read between my lines), I didn't expect to find such a glorification of Cartailhac's 'recognition' in a book by such a shrewd and sarcastic observer — especially at this late date and in association with another false note, since the authenticity of both Upper Palaeolithic parietal art (in the grotte Chabot and grotte de la Mouthe in 1894, and Pair-non-Pair, which was made a national monument in 1901), and mobiliary art had been recognised by many French prehistorians long before Cartailhac thought fit to apologise to anyone (let alone that person's ghost). It's high time to recognise that Cartailhac was simply cornered, and should not be unambivalently glorified.

I've dwelt on this glitch because its sleight-of-hand and one-sidedness crop up in other places where the author's indignation at outrages and readiness to jump into the fray, which make him such a bold researcher and articulate critic of archaeological cranks and profiteers, also seem to drive him occasionally to shoot from the hip. What worries me is that this tendency is the same one that led such swashbuckling researchers as Breuil and Cartailhac to make some of their own mistakes. What a shame it would be if the author should join them in throwing out one or more babies with the bath water.

Despite the fact that Le Quellec has performed an important service in demonstrating the flaws of romanticised archaeology, I'd love to see him pay as much attention to the more difficult subject of outliers like de Sautuola, who have played *positive* roles in archaeological discovery ever since Boucher de Perthes showed that deeply buried tools were present at St. Acheul. If he were to devote as much passion to investigating archaeologists like Cartailhac and some of our contemporaries who have suppressed findings that they couldn't grasp or co-opt, and other authorities, who've suppressed discoveries which threatened building, mining, and real estate interests, he could ignite a truly important debate while presenting a surprising rogue's gallery of fellow luminaries.

The reason I'm worried about the babies is that the author has come close to throwing one out a few times when settling a political score (always with the best of intentions). Once, for example, he told an audience of admirers and reporters, who had gathered at the Sorbonne to celebrate the publication of his book, *Vols de vaches à Christol Cave: histoire critique d'une image rupestre d'Afrique du Sud* (Le Quellec et al. 2009), that it was impossible to ask nearby natives about the possible significance of paintings in the rockshelter (on Ventershoek farm No. 504 near Wepener, South Africa), because whites had expelled all the natives who'd lived nearby.

That's true, but only if you limit the zone of inquiry to a radius of less than a mile, since Lesotho is a short walk away, and the natives there have remained in place. None of the journalists at the book launch seemed to notice that this popular (and justified) attack on Apartheid and its antecedents masked a partial

absurdity.

The problem is that there are some similar false notes in the book: little things, like the remark that a steatite bird was 'stolen' from Great Zimbabwe in 1889 (p. 111), when the notion of theft implies that some jurisdiction or person claimed ownership to the statue at that time. It may well be that somebody did have such a claim, but it would be nice to see proof, rather than being left with the feeling that the opinion is based on political correctness and hindsight.

The author might have been a bit quick to jump to a conclusion elsewhere as well — this time when he said that 'It would take us too far from this book's general theme to make a detailed critique' of Tudor Parfitt's speculations concerning Lemba 'oral traditions', which claim that they have some Jewish ancestors (pp. 259–260). The reason this omission gave me pause is not because I think the Lemba accounts are likely to be well-founded genetically, but because Bantuphone informants from the Fulani to the Fang have made similar claims (Caldwell 2015: 42), suggesting that such stories have spread and stuck, perhaps within the last few centuries. Although it's just a quibble, it would have been nice to see the author acknowledge (at least in a footnote) that the range of such claims makes them ideologically intriguing and worth investigating.

Another place where I stumbled was on page 28, where the author states that Breuil's nickname for one of the figures on the 'White Lady' panel — the 'Horned God' — 'seems to reflect a Christian mythology in which horns can only be a diabolical attribute.' Although Le Quellec demonstrates that the abbé had plenty of faults, this statement is so categorical ('can only') and out of sync with Breuil's celebration of horned and antlered beings in French caves that it seems slightly unfair. It seems all the more so when the author later undermines his own argument by showing how Breuil and Boyle associated the horned figure not with the devil, but with 'the "Men of Horns" ... hunting the Crocodile god of evil in Egypt' (p. 75). So which is it — did Breuil see the horns as being good or evil?

Le Quellec also seems quick to the draw when he lumps together a controversial statue at the Royal Ontario Museum that the excavator of Knossos, Sir Arthur Evans, dubbed 'Our Lady of Sports' (ROM registration No. 931.21.1) with other 'Minoan' figurines of bare-breasted women as being another *incontestable* forgery (pp. 241–244). As Kenneth Lapatin (2002) has shown, several of the statues are indeed suspect, but at least two faience figurines with bare breasts are probably authentic since they were found in situ in an area to the south of the Throne Room at Knossos that Evans named the 'Temple Repositories' (Evans 1921: Fig. 377; Cooper 2014).

The reason I'm uncomfortable with the author's dismissal of the ROM statue is that it's based on canonical arguments involving its unusual hemline and possession of both male and female attributes, rather than empirical evidence. This makes me uneasy because

canonical arguments often don't allow for outliers, and result in the disparaging of authentic pieces. It should also be noted that both the dark central figure and light-skinned flanking figures, which might be female, in the Taureador Fresco at Knossos are shown wearing the same bulging garment that the author interprets as a 'phallic sheath' (p. 241), which weakens his dismissal of the accoutrement as a forger's way of pandering to Evans' expectations (pp. 241) and 'manifest interest in images of slight boys' (pp. 243).

Furthermore, it's hard to make canonical arguments when a 'canon' is as small as the number of accepted Minoan statues of this calibre since one is faced with taphonomic problems and an unreliable data set. Plus, there are still more reasons to be cautious. First, because a careful examination of the statue's ivory showed that the weathering 'was certainly old, and it had been carved while the ivory was still "alive"' (Cooper 2013). Second, because there are at least three points where AMS analyses might produce results that could help define the statue's age despite it's being adulterated by conservation efforts (Cooper 2014) — namely, deep inside a leg, and at the figure's extremities, which have been burnt (meaning they have been carbonised, and will therefore give results, which will be illuminating, even if they are modern).

Furthermore, it would be interesting to see if the gold metallurgically matches other Minoan gold, and test the surfaces with Raman fluorescence, which might tell us how long the artefact has been exposed to ground-piercing radiation (Walley 2012). In the absence of such analyses and of any signs of modern tool marks, even under the gold clothing, I just cannot see how one can reject the statue so categorically.

The author's latest book touches on yet another subject that raises concern about his occasional dismissiveness and quickness to judgement. This time it is linked to the author's condemnation of Henri Lhote's archaic methods for rendering pre-Historic paintings, which involved moistening (and, therefore, damaging) them, and contempt for Lhote's more outlandish interpretations (although his treatment of Lhote shifts from book to book). In one of archaeology's ironies, Le Quellec used Lhote's painted reproductions of two panels at Ti-n-Tazarift to show that they do not correspond to the details of a Fulani cattle ritual called the *lootori* as interpreted by Amadou Hampaté Bâ and Germaine Dieterlen (1961, 1966) and embraced by Lhote (1966), because the paintings don't have enough cattle for the ceremony, which requires at least 28 (Le Quellec 2004) — only to be partially contradicted when Bernard Fouilleux used image-enhancing software championed by Le Quellec himself (DStretch) to show that the painting not only existed, contra Lajoux (2006: 127–148), but contained numerous details that Lhote had missed, including 12 more cattle! Although the new observations did not unconditionally rehabilitate Bâ's and Dieterlen's interpretations, Fouilleux tactfully

suggested that they 'showed that they constitute, until serious contradictory evidence is produced, a path for reflection, which is still interesting' (Fouilleux 2007: 181). So one must be careful.

My final (and most important) reservation actually involves an illustration the book is missing — a close-up of the penis the author is so sure graces Breuil's supposed 'White Lady'. The photograph on the cover unfortunately seems to crop this very feature (if it is conceived as projecting from the crotch), which might appear as a compact triangular bulge in Obermaier and Kühn's 1930 rendering on page 21 and the discoverer's — Reinhard Maack's — original sketch on page 20 and later rendering on page 23. The only good photo of the Lad(y) inside the book (on page 26), is too small for readers to make up their own minds since the triangular candidate is reduced to a vague conjecture while an alternative penis rears up in the form of a thin red and white horizontal arc, which is almost certainly a trick of the light and pareidolia. The lack of clarity is so confounding that one is tempted to sympathise with the poor abbé, except for the fact that Le Quellec has already shown what a cad he could be.

But this confusion over the penis masks something more disturbing, which is reminiscent of the fact that both light and dark Minoan figures are shown wearing an accoutrement over the belly that many interpret (rather categorically) as a 'codpiece'. This time it concerns another line on the 'White Lady', which I suspect is the actual feature that Le Quellec and others have been pointing to as the missing member — a nearly vertical red line within a thin white strip that joins the thigh to the belly, rather than anything outside that contour or projecting from the crotch. The problem is that the two figures to the left of the 'White Lady' also have such vertical red lines within or near their crotches (Rudner and Rudner 1974: Pl. 15), although one of them — the top left figure — can be read as a woman with both breasts and large buttocks shown in profile (Fig. 1). This suggests that Jalmar and Ione Rudner's (1974: 73) interpretation of the vertical red lines in the crotches of all *three* figures as the kind of short aprons once worn by San women (Stow 1905) is worth considering. If the line that Le Quellec interpreted as a penis is really an apron, then his male figure might be female after all. I'm not saying it is, but wonder whether the author's treatment of the figure's sexuality is another example of a tendency to rush to judgement.

I know these are strong words, but this essay should not be taken negatively, since this is a meditation on perils that all researchers — myself included — tend to succumb to at some point. It is also a meditation on the way the drive that propels such bold scientists as Le Quellec, Breuil and Cartailhac towards their breakthroughs can sometimes trip them up. Let me give an example, which might illustrate both tendencies: I was among the first to applaud when the author argued that there might be a link



Figure 1. Jalmar and Ione Rudner argue that the vertical red lines in or near the crotches of Breuil's 'White Lady' and the two figures to its left are illustrations of the short aprons worn until recently by San women (Rudner and Rudner 1974: Pl. 15).

between the headless beasts of Wadi Sora and the chimeric monster that swallows the bodies and souls of the deceased in the Egyptian Book of the Dead (Le Quellec et al. 2005: 253), although the association might be anachronistic (Caldwell 2013: 176–177). The reason I was so pleasantly surprised was because Le Quellec's argument was not only provocative, but thought-provoking.

In short, his willingness to plead the case of daring hypotheses springs from the same traits that make him such a brilliant prehistorian. For make no mistake about it, the faults I have noted are those of greatness, and the author's books about archaeological frauds are great and strong despite these quibbles. I want to reiterate that this lavishly illustrated book should be given pride of place in every archaeological, anthropological and cultural library bar none. You owe it to yourself and to the fight for factual integrity to read both Le Quellec's book on the 'White Lady', *Great Zimbabwe and Lost Worlds*, and its predecessor — his equally remarkable volume, *Des Martiens au Sahara*. Go buy them now.

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RAR 36-1305

on the new fields of archaeotribology and tribology of rock art research which were never thought of before.

This book explores the geological applications of tribology in some detail, before introducing the entirely new subdisciplines of archaeotribology and the tribology of rock art. The various geological, archaeological and rock art applications are then correlated through the detailed description of a tribological phenomenon of the natural world that was only discovered most recently, kinetic energy metamorphosis (KEM). This newly discovered phenomenon was first observed as a by-product of rock art production by the author in 2015, but it was subsequently recognised as a widespread physical process whose effects are much more common in both geology and archaeology. This must be the first time that rock art research has led to discovering a previously disregarded, unexplained or misconstrued phenomenon in geology; usually it is the study of rock art that draws heavily on the knowledge of geology.

Therefore, this volume advocates an extended scope for a science traditionally focused on aspects of friction, wear and lubrication of machines. This enhances the importance of tribology, while at the same time enriching disciplines that have never been considered to have potential connections with tribology. The book not only illuminates the holistic interdisciplinary character of natural processes, but also presents the need to view tribology as a science connected to many other fields. It also paves the way especially for the future direction of research in rock art science. The book, therefore, succeeds in demonstrating that, ultimately, all disciplines are interconnected in the magnificent web of science, in which all fields of scientific inquiry must play a role. The book is not only worth reading but also motivates the reader for deep inquiry into understanding the cause and effect of phenomena. I, therefore, strongly recommend it for the libraries and the readers indulging in scientific inquiry for understanding natural and anthropogenic phenomena encountered in geology, archaeology and rock art research.

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RAR 36-1306

Tribology in geology and archaeology, by ROBERT G. BEDNARIK. 2019. Nova Science Publishers, New York, 250 pages, 116 b/w images, references, index, hardcover, ISBN 978-1-53614-909-8.

Tribology, the science of interacting surfaces in relative motion, has traditionally focused on its technological applications, such as the issues of machine fatigue, the cost of friction in mechanical engineering and similar aspects of great economic importance. However, the present book on *Tribology in geology and archaeology* presents the pioneering work of the author

The observation of rock art is probably almost as old as its production, yet being an objective of scholarly interest has been a quite recent trend of the past two centuries. Researchers have intentionally recorded, depicted and interpreted rock art since the early 19th century, and numerous theories from perspectives about shamanism, fertility worship, symbolism, feminism, infusionism, behaviourism, adaptationism, structuralism have been invented, based on everyone's personal understanding. As a result, a great deal of what has been introduced in the name of 'rock art research' over the past two hundred years has consisted

to a great extent of people's self-conscious responses to rock art: what it reminded them of, and how similar it seemed to something else they had seen. To imagine oneself as the original artist cannot make the problem clear, but would possibly create some more modern myths about rock art, just like most of the studies so far presented in this field.

Therefore, we must admit that the majority of our research about palaeoart has never been liberated from static observation, and has made very little progress in the correct direction to the truth, especially when we immerse ourselves in those penetrating views full of wisdom stated by the author of this book.

A dynamic perspective towards the past, I assume, is the most invaluable enlightenment that the author tried to give to the readers. Just like Albert Spaulding said, 'The past can be understood only through the present', the author has made great efforts to build a 'bridge' of interpretation connecting the remaining traces that we can see today and the most probable behaviour of our ancestors. This interpretation, as the author repeatedly emphasises in the book, must be established on the basis of repeatable and falsifiable experimental means. Through such kind of reconstruction, the whole lifespan of palaeoart, from its production to its long taphonomic process, can be hopefully restored from fragments. The introduction of the KEM problem I would like to regard as a milestone in the history of rock art science. It has brought the natural mechanism during the formation of the superficial micro-structure of the pounded grooves of petroglyphs under the spotlight for the first time. Without doubt, it will create infinite possibilities for the development of dating technology and, more importantly, the deepening of understanding of the nature of palaeoart.

Like the occurrence of middle-range theory has influenced the development of archaeology during the late 20th century, the publishing of this book should also bring a lasting theoretical impact to rock art research of the next decades. Actually, it does not mean that the author was inspired by Binford or some other New Archaeologists. I believe that only by analysing palaeoart from precise and persuasive scientific facts, and without any presupposition, can the author write such an exceptional academic masterpiece with uncountable thought-provoking discussions on the world's rock art research, reflecting a deep insight of the nature of science. In this sense, *Tribology in geology and archaeology* is heralding the coming of a new era of rock art study, and as a reader, I have already started to wonder what surprise the author will prepare for his next book.

Dr Jin Anni

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RAR 36-1307

Prehistoric rock art in Scandinavia: agency and environmental change, by COURTNEY NIMURA. 2016. Oxbow Books, Oxford and Philadelphia, 141 pages, monochrome and colour illustrations, bibliography, softcover, ISBN paperback edition: 978-1-78570-119-1; digital edition: 978-1-78570-120-7.

This book publishes the extensive PhD research undertaken by Courtney Nimura on the rock art of Scandinavia. The main value of the book for rock art research is its attempt to be holistic for Scandinavian rock art, where most studies have been regional and piecemeal in nature, and to provide an overall theory for the interpretation of patterns in the rock art. Another very valuable component of Nimura's research has been the compilation of a GIS database of rock art motifs across Scandinavia from the various databases held by the different heritage agencies. This should prove to be extremely useful to other researchers, although of course its utility will depend upon a continual process of updating the database.

The first chapter of the book introduces the rock art of Scandinavia, as well as the considerable body of portable art — especially the bronze razors from Denmark and southern Sweden, which are a focus of Nimura's study. The portable art has often been used to interpret the region's rock art, and has also been a critical source for dating 'ship' motifs, one of the most abundant images found in the rock art. Chapter One also considers trends and themes in the key interpretations that have appeared in the literature, revolving around the ship as an important icon in the rock art, and its association with watery landscapes: the coast and inland rivers and lakes.

Explanatory theories for the significance of the ship in Bronze Age worldviews and rock art are further explored in Chapter Two, and placed within the context of environmental change and the location of the sea at this time. Concepts of landscapes and seascapes as sacred places are considered, as well as the influence of the maritime environment on rock art. Nimura observes that one of the drawbacks of many of these theories is that they are localised in nature and usually based on a corpus of rock art from only a small geographical area. She asks whether it is possible to propose a theory to cover Scandinavian rock art as a whole. The rest of the book sets out to do this, which is one of its main strengths, as noted above.

Chapter Three presents the methodology used to interpret the rock art in the second part of the book, as well as the creation of a database for Scandinavian pre-Historic rock art. It also sets up the analyses that follow in the next chapter.

In Chapter Four, extensive analyses of motif distributions across space using ScanGIS and site study areas that were defined in Chapter Three are discussed. Motif distribution maps, motif occurrence (quantity) tables and scattergrams of the distances of sites to the present-day coastline are all presented.

The analyses found several patterns in terms of similarities and differences amongst the various study regions. In terms of motif distributions, most figurative rock art sites were found to be located close to water, although to varying degrees; while the non-figurative sites tended to spread out over larger geographical areas. There were differences between study areas in the numbers of sites at which 'ship', circle and foot sole/foot motifs co-occurred. For motif occurrences (quantities), several patterns were identified in 'ship', circle and foot sole/foot motifs in the different study areas. A major conclusion of the analyses was that the frequency of 'ship', circle and foot sole/foot motifs declined the further they were from water.

The final chapter of the book provides interpretations for the patterns observed in Chapter Four, drawing on theories proposed by anthropologists, cognitive scientists and archaeologists. It focuses on material agency as a means of understanding the role rock art plays in society. Nimura argues that the sea was fundamental to the meaning and purpose of rock art, especially in the Bronze Age, and that sea-level/shoreline changes would have led to a renegotiation of the relationship between the sites and their intended purpose. She reviews many theories, especially those involving cosmologies and world views that revolve around the sea, noting that it is in the areas where water was most under threat, where shoreline displacement was occurring, that the most extravagant and largest concentrations of rock art occur.

The volume relies to a great extent on spatial analyses and mapping of motifs. However, unfortunately I found many of the maps difficult to read, often with insufficient differentiation between the colours used. It would have been useful to have more overall geographical maps for readers who are not so familiar with the geography of Scandinavia, for example, like the map in Figure 4.11. For a book and study focussing on rock art, there should have been more photographs and drawings of the rock art as well.

This volume is on the whole very well written and engaging. A minor quibble is that Nimura needed to define precisely what she meant by 'nonfigurative' as it seems her meaning is at odds with most common usage amongst rock art researchers.

Overall, this is an excellent book on Scandinavian rock art, which provides an up-to-date summary of the state of rock art research in the area, comparisons with motifs in other artistic media (such as portable art), and an interpretation of patterns in the rock art from a Scandinavia-wide, rather than a smaller-scale, perspective. It should prove to be most useful to rock art researchers with an interest and research focus in the region.

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RAR 36-1308

Aesthetics, applications, anarchy: essays in pre-historic contemporary art. A Festschrift in honour of John Kay Clegg, 11 January 1935 – 1 March, 2015, edited by JILLIAN HUNTLEY and GEORGE NASH. 2019. Archeopress, Oxford 171 pages, 94 illustrations, softcover, ISBN 978-178-491-999-3.

Yes, the book is a kind of Festschrift. But if a Festschrift is a collection of essays about new and innovative work done by colleagues and students of a scholar, presented to him or her on retirement to honour his or her achievement it is only partly a Festschrift. Several essays breaking new ground are published in it but they have not been published until four years after John Clegg's death, so there is no possibility of presentation. These essays are not the only element of the book either. It also contains a kind of intellectual biography of John Clegg threaded through and around the elements of Festschrift and as such it is also limited in its scope. It concerns only John Clegg's engagement with the significance of pictures painted and engraved on rock surfaces, and particularly those within relatively easy driving distance of his house at Balmain on the south side of Sydney Harbour.

John Clegg is described as a highly intelligent and rather mischievous man with a great ability to find out what interested other people and adapt what he was thinking about to their interests. This meant that he was a very, very effective teacher. He was also quick witted and perceptive. He was idiosyncratic in his methods of trying to understand pictures that are not in the western European tradition though he was not anarchic. He was not destructive; he was systematic in his analysis. His anarchy was directed towards words which quite rightly he saw as failing to describe the essentials of visual communication of fundamental concepts. He was not really anarchic in his behaviour either. Despite his frequently odd appearances and his drama his manners were conventional. The bibliography of more than seventy items is useful as well but is not comprehensive and apart from Natalie Franklin's article there is no attempt at a reprint of what he said, only an exposition of what the writer thought he said.

Claire Smith, who wrote the Foreword, the editors of the book, Jillian Huntley and George Nash, Jo MacDonald, Thomas Heyd, Natalie Franklin, Ben Watson, Margaret Bullen and Christopher Chippindale all contribute relevant descriptive information about the 'rock art' compartment of John Clegg's life. That there were other compartments to an even lesser extent integrated with his rock art studies than his sculpture is an undercurrent in all the accounts but is nowhere made explicit. What emerges is a study of a man thought by all of them to have some extremely interesting ideas who was very good at putting them across. Only to a limited extent is the diversity of those ideas discussed, however.

Six contributors wrote in a fashion appropriate to a Festschrift. Reinaldo Morales and Howard Risatti write

on Pre-Columbian rock art and Alexander Baumgarten's aesthetics. They discuss the idea that an aesthetic response is necessary if a mark assemblage is to be called art. They say that if art engenders an aesthetic response and an aesthetic response is 'a gut level knowing through senses rather than through logic and rational cognition', then art enhances 'communicative effectiveness'. The criteria are applied to determining whether paintings, engravings and other petroglyphs on rock at sites on the Caribbean Islands of Anguilla, Puerto Rico, Cuba and Jamaica, and in Brazil the highlands of Bahia and Piauí are art or something else.

Josephine Flood's article is definitely Festschrift material. It is a reprise of three books developing her understanding of the rock art of the Aboriginal 'Dreamtime' with references to John Clegg's work where appropriate. The first published, in 1997, was an admirably complete overview of the nature of the images depicting Aboriginal origins and the article does not really allow sufficient space for expanding into the detail provided by the 2010 and 2019 updates and two editions. There are a few thoughts that do not appear even in embryo in *Rock art of the Dreamtime*, however.

Paul Taçon and his Aboriginal assistants write about Gallery Rock which they say is an aggregation site with a petroglyph complex in a remote part of the Wollemi National Park in the Blue Mountains, New South Wales. Whether the site was first occupied as a refuge from the intrusion of unwanted Britons in the Sydney basin in the late eighteenth century or whether its origins were older turns round whether the two culture heroes Baiame, an anthropomorph with a bird's head, and Daramulan, a quadruped with an attendant emu were of Christian origin or, as seems more probable, evolved much earlier than the first European contacts.

Robert G. Gunn, better known to me and to many others as 'ben' Gunn, discusses amendment and alteration of mark assemblages on rocks in Australia. It is largely based on his work on the Jawoyn, the current 'traditional' owners of the land between the Katherine River and the Roper River system. The 'country' is less accessible to commercial exploitation than the rest of habitable Arnhem Land and therefore individual mark assemblages on rock surfaces have more significance for Jawoyn elders than elsewhere and consequently provide a sounder basis for the analysis of how the mark assemblages are built up. His examples are not confined to south-western Arnhem Land, however. He uses several images from other parts of Arnhem Land and further afield in Australia to outline a very comprehensive method of describing how the intention of coherent individual Australian Aboriginal painted mark assemblages were developed by successive painters.

Jamie Hampson's contribution is a concise, carefully written and illustrated account of the difficulties of reconciling San and Sotho ethnography and the known history of colonisation of South Africa with the nature of the marks on painted panels on a rock surface. Bos 1, Wepener, Free State Province near the border with

Lesotho, is a complex black and red painting of around forty people, mostly men armed with clubs. It has received various interpretations that suggest it is a recent event that is described, possibly a ritual. Hampson dismisses these interpretations and though he avoids any concrete conclusion he suggests the intention of the panel might be to describe a belief directly without the intervention of human action.

Jane Kolber assembled an interesting compilation on the subject of physical contact with rock art by twenty people involved with studying it. They range from the practical considerations of excavating archaeologists, through the dilemmas of conservators to the inhibitions produced by the transcendent beliefs of indigenous people who claim to be traditional owners.

Academic archaeological French is of course a different language from colloquial French of any region of France but the form of it that Denis Vialou has chosen for his comparison of his own work on the non-depictive mark assemblages in Cantabrian, Pyrenean and Perigordian Palaeolithic cave sites with John Clegg's observations on Panaramitee of Sturt's Meadows is more difficult to read than other things by him that I have read. I am not reassured by the translation of the Abstract that heads the article but I think his message is quite simple. A non-depictive mark assemblage requires a close community of viewers if it is to be understood. Abstract mark making can be developed wherever a need arises and this means that a mark assemblage may indicate different ideas in different places, even places quite close together. However, a certain '*homogénéité*' is the fundamental structure of both the Panaramitee rupestrian mark assemblages and the Franco-Cantabrian despite the separation to opposing positions on the planet's surface. The way this might be understood benefits from the kind of detailed study John Clegg undertook.

What emerges from reading the seventeen contributions is that *Aesthetics, applications and anarchy* is two books in one, a Clegg compendium and valuable as such, but it is a book whose value is diminished by trying to do too much in too little space. The intellectual biography inhibits the production of the kinds of essays found in a traditional Festschrift. The Festschrift material does not allow accurate resolution of what John Clegg actually said.

Michael Eastham

Fishguard, U.K.

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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. Bi-

lingual newsletter (French and English). Recent issues include these research articles:

Number 83 (2019):

BRAVIN, A.: Discovery of two new 'Tazina-style' engraved sites, Tata region, southern Morocco.
HERMANN, L.: The rock art of Kara-Too (Naryn Oblast) in Kirghistan. Situation and research history.
MASSON MOUREY, J.: 'Keyhole' figures and the 'anthropomorph with zigzag arms' of the Vallée des Merveilles (Tende, Alpes-Maeritimes, France).

Number 84 (2019):

CLOTTE, J. and M. DUBEY-PATHAK: The Kumalwa painted shelter, Madhya Pradesh (India).
NASR, J. B. and M. TABBABI: Douken Jefara and Jebel Nagueb: two central-southern Tunisian rock art engraved sites (Gafsa region).
D'HUY, J.: The diffusion and performance of an iconographic motif in rock art.
MASSON MOUREY, J.: First application of reflectance transformation imaging (RTI) on prehistoric engravings of the Monte Bego region (Tende, Alpes-Maritimes, France).

SIARB Boletín. Journal of the Sociedad de Investigación del Arte Rupestre de Bolivia (SIARB). Edited by MATTHIAS STRECKER. The most recent issue includes the following research papers:

Volume 33 (2019):

HOSTNIG, R.: Paleomadriguras con petroglifos: el caso de Llamachay en Colquemarca, Cusco.
FALCHI, M. P.: Nuevos aportes a la arqueología de la Pampa Grande: las representaciones rupestres de la Cueva Tatacalo (Salta, Argentina).
BRAY, T., S. CHÁVEZ FARFÁN, M. ALEJO TICONA and S. CHÁVEZ: Recientes excavaciones en Intinqala: un sitio de ocupación inca en Copacabana, Bolivia.
CORDERO, R., M. STRECKER and F. TABOADA: Arte Rupestre en los Yungas, La Paz. Una primera aproximación a partir de tres sitios.

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:

Volume 20 (2018):

BERNEZAT, J.-L.: Deux abris peints de l'Āhélakan occidental (Parc National Culturel du Tassili, Algérie).
DUQUESNOY, F.: Étude spatiale des images rupestres à l'échelle d'une paroi: proposition méthodologique.
GAUTHIER, Y. and C. GAUTHIER: Petit manuel d'attelage: gravures et peintures de chars sahariens.
HALLIER, U. W.: Anthropomorphs of the Djado

Mountains: ancestors of the Tasili-n-Ājjer Roundheads.
HOARAU, B. and A. EWAGUE: Le plateau supérieur do Yagour (Haut-Atlas, Maroc) groups 1 et II.
D'HUY, J.: Des ovins solaires au Sahara?
LE QUELLEC, J.-L.: 'Idoles', 'bétyles', 'litholâtrie' et 'culte phallique' au Sahara.
LE QUELLEC, J.-L. and M.-J. NEZONDET: Pour un corpus do 'motif digité' au Sahara central.
LACHAUD, G. and S. LACHAUD: Une peinture inattendue à Seliki (Ennedi, Tchad).
LACHAUD, S.: Un nouveau site de peintures apparantées aux gravures de Niola Doa à Barakatra (Ennedi, Tchad).
MAESTRUCCHI, F. and G. GIANNELLI: Desert kites nel Sahara centrale. Analisi preliminare delle strutture individuate nell' Hammādat al-Hamra' (Libia). Prima parte.
ZBORAY, A.: A return to Jebel 'Uweināt (northwest Sudan), new finds and observations.

Conservation Perspectives: the GCI Newsletter, The Getty Conservation Institute. A recent issue contains these articles:

Volume 34, Number 1:

AGNEW, N.: Saving art on the rocks.
GENESTE, J.-M.: Ice Age rock art sites: an artistic and spiritual heritage.
BOYD, C.: Preserving North America's oldest known 'books': the Shumla Archaeological Research & Education Center.
KUBA, R.: Rediscovery: the rock art documentation of Leo Frobenius.

RECENT BOOKS OF INTEREST

A figure do cervídeo na arte Rupestre do Vale do Tejo: símbolos de transição, by SARA GARCÊS. 2018. ARKEOS No. 46, Instituto Terra Memóra, Mação, Portugal, 131 pages, monochrome illustrations, bibliography, softcover, ISBN 978-989-54041-0-0.

The Oxford handbook of the archaeology and anthropology of rock art, edited by BRUNO DAVID and IAN J. McNIVEN. 2018. Oxford University Press, New York, 1135 pages, with 80 contributors, colour and monochrome illustrations, hardcover, ISBN 978-0-19-060735-7.

Drawing the land: rock art in the upper Napean Basin, New South Wales, by JULIED DIBDEN. 2019. Terra Australis No. 49, Australian National University Press, Canberra, 211 pages, illustrated in colour, bibliography, softcover, ISBN 978-1-76046-258-1.

Aesthetics, applications and anarchy: essays in pre-historic and contemporary art. A festschrift in honour of John Kay Clegg, edited by JILLIAN HUNTLEY and GEORGE NASH. 2019. Archaeopress Publishing Ltd, Oxford, 171 pages, with 17 contributions, colour and monochrome illustrations, softcover, ISBN 978-1-78491-998-6.

RECENT PAPERS OF INTEREST

El abrigo de Hoya de Navarejos III (Tormón, Teruel). Nuevas perspectivas para el análisis del arte levantino interior, by MANUEL BEA MARTÍNEZ. 2017. *Complutum*, Volume 28, Number 1, pp. 37–50.

La estela de guerrero y la estela antropomorfa de Pedra Alta (Castrelo de Val, Galicia), by MANUEL SANTOS-ESTÉVEZ, PATRICIA MAÑANBORROZÁS, NIEVES AMADO ROLÁN and HUGO PIRES. *Complutum*, Volume 28, Number 1, pp. 71–86.

Graver la pierre dans la vallée de la Vienne au Magdalénien moyen : le cas des chevaux sur supports moboliers lithiques, by PASCALINE GAUSSEIN. 2017. *Paleo: Revue d'archéologie préhistorique*, Volume 28, pp. 137–156.

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

Etnoarqueología y arte Rupestre: potencial, perspectivas y ética, by INÉS DOMINGO, CLAIRE SMITTH and S. K. MAY. 2017. *Complutum*, Volume 28, Number 1, pp. 285–305.

Cultural roles of bears: response to Julien d'Huy, by ROBERT G. BEDNARIK. 2017. *International Newsletter on Rock Art*, Number 79, pp. 17–20.

Somatogenesis: vibrations, undulations and the possible depiction of sound in San rock paintings of elephants in the Western Cape, by JOHN PARKINGTON and ANDREW PATERSON. 2017. *South African Archaeological Bulletin*, Volume 72, Number 206, pp. 134–141.

Reading messages into palaeoart, by ROBERT G. BEDNARIK. 2017. *Expression*, Number 16, pp. 16–21.

Une tête de renne inédite provenant du Magdalénien de Longueroc (Plazac, Dordogne, France), by ELENA MAN-ESTIER. 2018. *Paleo: Revue d'archéologie préhistorique*, Volume 28, pp. 251–255.

Une nouvelle représentation d'art pariétal dans la Grande grotte de Saint-Front (Domme, Dor-

dogne, France), by ÉRIC ROBERT, STEPHANE PETROGNANI, ÉMILIE LESVIGNES, VIRGINIE LE FILATRE, CATHERINE CRETIN and XAVIER MUTH. 2018. *Paleo: Revue d'archéologie préhistorique*, Volume 28, pp. 257–269.

Memorialization and the stenciled rock art of Mirarr Country, northern Australia, by JOHN A. HAYWARD, IAIN G. JOHNSTON, SALLY K. MAY and PAUL S. C. TAÇON. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 3, pp. 361–378.

Country and relational ontology in the Kimberley, northwest Australia: implications for understanding and representing archaeological evidence, by MARTIN PORR. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 3, pp. 395–409.

Human images and blurring boundaries. The Pueblo body in cosmological context: rock art, murals and ceremonial figures, by POLLY SCHAAFSMA. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 3, pp. 411–431.

Arguments for the age of Serpent Mound, by BRADLEY T. LEPPER, JAMES R. DUNCAN, CAROL FIAZ-GRANADOS and TOD A. FROLKING. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 3, pp. 433–450.

Early Australian anthropomorphs: Jabiluka's dynamic figure rock paintings, by SALLY K. MAY, IAIN G. JOHNSTON, PAUL S. C. TAÇON, INÉS DOMINGO SANZ and JOAKIM GOLDHAHN. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 1, pp. 67–83.

The origins of iconic depictions: a falsifiable model derived from the visual science of Palaeolithic cave art and world rock art, by DEREK HODGSON and PAUL PETTITT. 2018. *Cambridge Archaeological Journal*, Volume 28, Number 4, pp. 591–612.

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

Reflecting back: 40 years since 'A survey of the rock art in the Natal Drakensberg' project (1978-1981), by ARON MAZEL. 2018. *The Digging Stick*, Volume 35, Number 1, pp. 1–6.

A painting of a gemsbok in the 'White Lady' panel in the Brandberg, Namibia, by J. FRANCIS THACKERAY. 2018. *The Digging Stick*, Volume 35, Number 1, p. 11.

San rain images in the Cederberg, by ANDREW PATERSON. 2018. *The Digging Stick*, Volume 35, Number 1, pp. 19–22.

IFRAO Report No. 61



New members of IFRAO

The **Asociación Mexicana de Arte Rupestre, A.C.** (AMARAC) is the first association of its kind in Mexico. It was created in 2001 with the aim of forming a body of people wishing to undertake the research, protection, communication and dissemination of Mexican rock art and to establish strong relations with other people around the world sharing similar objectives. AMARAC is an adjunct of the Instituto Nacional de Antropología e Historia (INAH), the national body that regulates and protects all cultural heritage in Mexico. A copy of its Constitution is in hand. The President of AMARAC is Gabriela Vergara and its executive committee is formed by rock art specialists from the Universidad Nacional Autónoma de México, Instituto Nacional de Antropología e Historia, the Colegio de Michoacán and by independent investigators. AMARAC's home is at the Escuela de Estudios Superiores at the UNAM (National University of Mexico) campus of Morelia. Roberto Martínez, Félix Lerma, Daniel Herrera, Larissa Mendoza and Leslie Zubieta have formed a committee to coordinate an international conference in Morelia, Mexico, in 2021. Morelia's historical centre is World Heritage listed, petroglyphs occur in the nearby Patzcuaro Basin and in neighbouring Guanajuato.

The IFRAO representative of Asociación Mexicana de Arte Rupestre, A.C. is Leslie Zubieta, C Montalegre 6, Universitat de Barcelona, Despatx 3012, 08001 Barcelona, Spain; leslazu@gmail.com

The **Instituto de Investigación de Arqueología y Antropología 'Kuelap'** (INAAK) in Amazonian Peru has also joined IFRAO. Founded on 18 September 2000, INAAK is engaged in archaeological and anthropological investigations, in publishing and in conducting conferences. The principal office holders of INAAK are its Director, Alex Pinzón Chunga, and archaeologist Karina Reyes Rodríguez. The work of INAAK includes the investigation of rock art in Amazonian Peru.

The IFRAO Representative of the Instituto de Investigación de Arqueología y Antropología 'Kuelap' is Daniel Seuart Castillo Benitez, Campus Universitario, Chachapoyas - Amazonas - Perú; Tel. No. 051 949 965 869; daniel.castillo@untrm.edu.pe.

The **National Museums and Monuments of Zimbabwe** (NMMZ) has also been elected as a new member of IFRAO. It was established in 1972 via an Act of Parliament. Operating in Zimbabwe and southern Africa, the key activities of NMMZ are to administer museums and monuments; provide for the preservation of monuments, rock art, specimens and objects of cultural significance and value; document, preserve and present Zimbabwe liberation heritage; investigate and report upon any matter relating to any monument or object including the desirability of declaring any monument to be a national monument; compile and keep a register of all national monuments and of any objects acquired; protect monuments from unauthorised excavation, alteration, damage or destruction; hold public exhibitions of collections; conduct original research in human and natural sciences; the promotion of community involvement in heritage management and regulating the impact of development activities on heritage. The principal officers are Godfrey Mahachi (Executive Director), Darlington Munyikwa (Deputy Executive Director) and Kundishora T. Chipunza (Chief Curator).

The IFRAO Representative of the National Museums and Monuments of Zimbabwe is Kundishora T. Chipunza, Penrose Hill, No. 107 Rotten Row, P.O. Box CY 1485, Causeway, Harare, Zimbabwe; Tel. No. +263-242-752876; kchipunza0@gmail.com.

Public statement by the Brazilian Rock Art Association (ABAR)

The Brazilian Rock Art Association (ABAR) has listened to the requests of the Indigenous Researchers and Honorary Associate members Mr Jairo Saw Munduruku (Munduruku Historian) and Mr Poani Higino Tenório (Tuyuka Historian) during the general meeting gathered at Diamantina (MG), on 23rd of May 2018. Having listened to their reasons, ABAR expresses its strong repudiation of the destruction of sacred Indigenous sites by massive infrastructure projects.

Karobixexe, at the Tapajos river, is the main sacred site to the Munduruku people and was devastated by a mega-hydroelectric dam. Even today, several other sacred sites of these and other peoples are still under

threat. A case in point is the archaeological complex of Três Fronteiras (MG), where both the cultural and the environmental heritage have been systematically destroyed by mining operations carried out over the last ten years.

While this document was being translated and finished, during September of 2018, one more outrageous attack against Indigenous sacred places with rock art in Brazil has just occurred. Petroglyphs in the Kamukuwaká cave, Tamitatoala River, Upper Xingu basin, in Mato Grosso state were severely damaged by percussive vandalism. This cave is of utmost sacredness to Waurá Indigenous people and other ethnic groups of the Upper Xingu cultural area. Some of these groups perform rituals and tell detailed histories about the petroglyphs inside the cave. Coincidence or not, this state is one of the most troublesome in agribusiness expansion, disrupting and conflicting with Indigenous territorial rights. Sadly, this indicates that Indigenous sacred places with rock art possess almost no value as heritage to many non-indigenous people and anti-indigenous interests in our society. Therefore, in Brazil, native places of memory are under ongoing

and severe threats.

ABAR supports the struggle and claims of the Munduruku and Waurá peoples, and all other Indigenous peoples towards maintaining their sacred places safe and alive, whether they present any rock art or not (*Wuyta'a Ybararakat/Surabudodot* in Munduruku language). Our Association equally repudiates the predatory exploitation of Indigenous meaningful places, which turns landscapes, humans and non-humans into mere commodities. ABAR supports the need for a deeper ethical discussion of the archaeologists' role in the process of validation and implementation of infrastructure projects with potential massive socio-environmental impacts, such as mega-dams, mining and agro-industry. ABAR also raises the need for a broader reflection on the role of archaeologists in the protection of Indigenous sacred sites with rock art in Brazil and elsewhere.

Prof. Dr Marcelos Fagundes

ABAR President

RAR 36-1310

Addendum

RAR 36(1), May 2019, featured the article 'Australian rock art bibliography extracted from the Rock Art Studies Bibliographic Database for the years 1841 to 2018 — part 2'. The entry 'Megaw, J.V, 1983' needs to be corrected to:

Megaw, J.V.S., 1983. The present past? A minimal view of ethnographic analogy and rock art. In M. Smith (ed.), *Archaeology at ANZAAS 1983*, pp. 288–292. Western Australian Museum, Perth.

Among the publications by the same author that deal with Australian rock art are also:

Megaw, J.V.S., 1966. Report on excavations in the South Sydney district, 1964/65. *Australian Institute of Aboriginal Studies Newsletter* 2(3): 4–15.

Megaw, J.V.S., with a contribution from R.V.S. Wright, 1966. The excavation of an Aboriginal rock shelter in Gymea Bay, Port Hacking, NSW. *Archaeology and Physical Anthropology in Oceania* 1(1): 23–50.

Megaw, J.V.S., with Julia Cox and Leslie Maynard, 1968. The excavation of a rock shelter at Audley, Royal National Park, N.S.W. *Archaeology and Physical Anthropology in Oceania* 3: 94–104.

Megaw, J.V.S. (ed.), 1974. *The recent archaeology of the Sydney district: excavations 1964–67*. Australian Institute of Aboriginal Studies Research Publication 1, Canberra.