



BRIEF REPORTS

A phylogenetic approach of mythology and its archaeological consequences

By JULIEN D'HUY

Mythology has provided apparently solid and reliable clues to the meaning of Saharan rock art (see e.g. Le Quellec 2004; Le Quellec et al. 2005). Yet to reveal the mythological meaning concealed in pre-Historic images is an exceptionally difficult task. Rock art images may represent the versions of a myth which are either unknown or diverge substantially from the ones recorded in written sources. As such they may be representative of versions belonging to previous, more archaic stages of development (Devlet and Devlet 2005: 233). This is why we suggest a new and alternative method to study ancient mythology.

There are many parallels between the process of biological and mythological evolution (d'Huy 2012a, 2012b, 2012c). For instance, like genes, mythemes are discrete heritable units, pass from one generation to the next and change slowly. Like biological species, myths evolve into a series of related forms. A number of other parallel features exist, e.g. natural selection vs social selection and trends; biological mechanism of replication vs teaching, learning and imitation; genetic mutations vs innovations and structural transformations; and horizontal gene transfer vs borrowing. Based on similar parallelisms between genetic and other cultural areas, tools from evolutionary biology are being imported to analyse linguistic and cultural phenomena (Nunn 2011). Additionally, some of the most fundamental questions in evolutionary science involve reconstructing ancestral states (Nunn 2011). However, despite these parallels and common goals, prehistorians have not used the quantitative phylogenetic methods that have revolutionised evolutionary biology to reconstruct ancient mythology that can explain rock art.

We used recently a phylogenetic algorithm, Bio-Neighbor-Joining (implemented in the program Splits Tree 3.2), to explore global patterns of the Pygmalion mythological family in Africa. In such stories, a man falls in love with an image of a woman — often a wooden doll. The man believes that it is a real woman; it

becomes alive and marries the master. We constructed a database including the typological variations of the Pygmalion versions (d'Huy 2012a). The presence or absence of mythemes for each version was coded as 1 or 0, respectively, to produce a binary matrix of 58 mythemes in 13 versions. Our results implied that the diversification of Pygmalion versions was consistent with a human expansion from the Afro-Asiatic region to southern Africa ~2000 years ago (Henn et al. 2008).

According to anthropological studies (d'Huy in prep.), we postulate that the more two myths diverge, the more their 'genetic' relationship is distant, geographically and temporally. The same matrix was re-analysed in the phylogenetic package Mesquite 2.75, using a simple model to calculate the parsimony tree-length of the tree and matrix. Character matrices were supplied from data files and the tree was rearranged by sub-tree pruning and regrafting. Finally, we rooted the tree. Archaeological and mythological evidences (d'Huy 2009, 2011a, 2011b; d'Huy and Le Quellec 2009; Le Quellec 2012) agreed that Sahara (Berbers) was a good homeland for a myth that tells us that an image can become alive. A fear of animation may explain why wild animals that constitute a threat, such as felines, elephants and crocodiles, were often represented incomplete in the Libyan rock art: they also were less dangerous and could no longer come alive. One other procedure that constantly appears is that dangerous animals were represented pierced with arrows or simply not represented (d'Huy 2009; d'Huy and Le Quellec 2009; Le Quellec 2012). Moreover, the Berber myths of Pygmalion seem to be much older than a Muslim iconoclasm (d'Huy 2011a) and the Ovidian version of the story (d'Huy 2009). Additionally, a Kabyle version seems to inverse the Egyptian *Tale of two brothers* that dates from the reign of Seti II, who ruled from 1200 to 1194 BP; according to the structural method (Lévi-Strauss 1983), the Egyptian tale may be the product of an old Egyptian borrowing to their Berber close neighbours (d'Huy 2012a). Yet rooting the tree with the Kabyle (Berber community in northern Algeria) version could be claimed to bias the analysis in favour of our own theory. We thus rooted the tree with two versions of the mythological family: the Greek and the Bara. Both versions were closely related (d'Huy 2012a) but also were the more geographically distant. Additionally, the Bara settled on an island that did not allow for great population

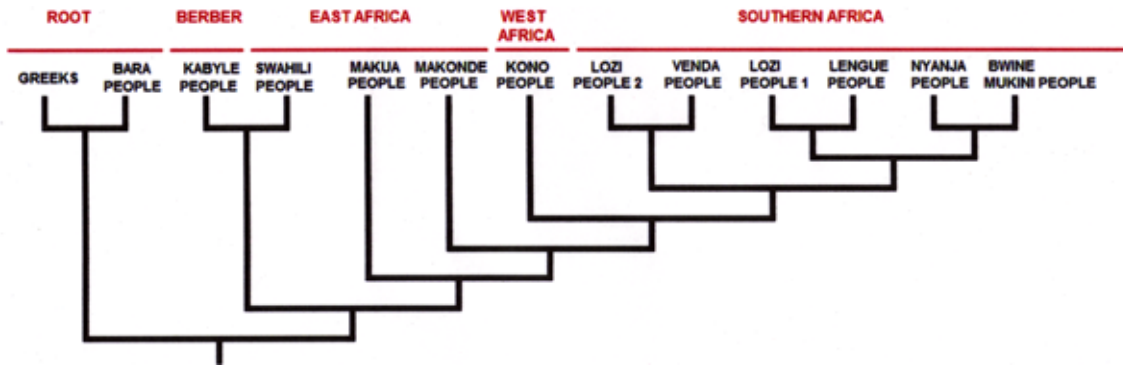


Figure 1. Phylogenetic tree of Pygmalion mythological family inferred with Mesquite 2,75.

expansion and mythological diversification. Similarly, the Greek version has been borrowed by the Greeks from the Berbers (d’Huy 2011b) and remained isolated for most of its history from African versions. So the Greek and Bara versions probably preserve one of the first versions of the Pygmalion family. The tree is shown in Figure 1, and its topology is in agreement with the tree obtained by the Bio-Neighbor-Joining algorithm and a Berber origin of the myth (d’Huy 2012a). The tree also shows a diffusion of the tale from the Afro-Asiatic region to southern Africa.

An analysis of the tree produced a consistency index of 0.60 and retention index of 0.52. The CI is commonly used to measure the extent of homoplasy (resemblance not due to inheritance from a common ancestry, convergence) and the RI is used to measure synapomorphy (derived states shared by two or more taxa and their most recent common ancestor) in the data. High CI and RI values (for example, greater than 0.60) are usually indicative of low horizontal transmission (Nunn et al. 2010), yet a RIs corpus for biological data sets usually ranges from 0.35 to 0.94 (Lycett et al. 2009). Consequently, horizontal transmissions (borrowings between neighbouring tribes) did not seem a problem for the phylogenetic mythological comparative method (d’Huy in prep.), because it appeared that the majority of mythemes were transmitted vertically from parents to daughter populations and are consequently relatively conservative. A lower CI or RI would refute this assertion.

The orderly and geographically consistent phylogenetic signal shows that phylogenetically analysed mythological pattern can preserve a signal that is consistent with old human migrations. The results show a diffusion of the tales from the Nilo-Saharan region to southern Africa and this is consistent with the geographic distribution of the E3b1f haplogroup. The genetic data suggest an expansion through Tanzania to southern-central Africa, independent of the migration of Bantu-speaking peoples along a similar route ~2000 years ago (Henn et al. 2008). Whereas memes can travel without migration, myths seem to be related to the people’s history (d’Huy 2012a, 2012c, in prep.). Consequently, the study of myths can be useful to reconstruct large and ancient movements of populations. To be accepted, our results imply that the past populations did not get very far, but this is in agreement with the E3b1f diffusion and the analysis of microsatellite data.

What was the ancestral state of the Pygmalion myth? We recreated the first state for the Pygmalion family by applying to each mytheme of this family maximum likelihood or parsimony reconstructions (i.e. phylogenetic reconstruction methods). We only selected highly confident reconstructed mythemes (probability of more than 75% with the maximum likelihood method and of 100% with the parsimony method). Figures 2 (maximum likelihood) and 3 (parsimony) provide an example of how we did this; the analysed mytheme was ‘the sculptor is a human

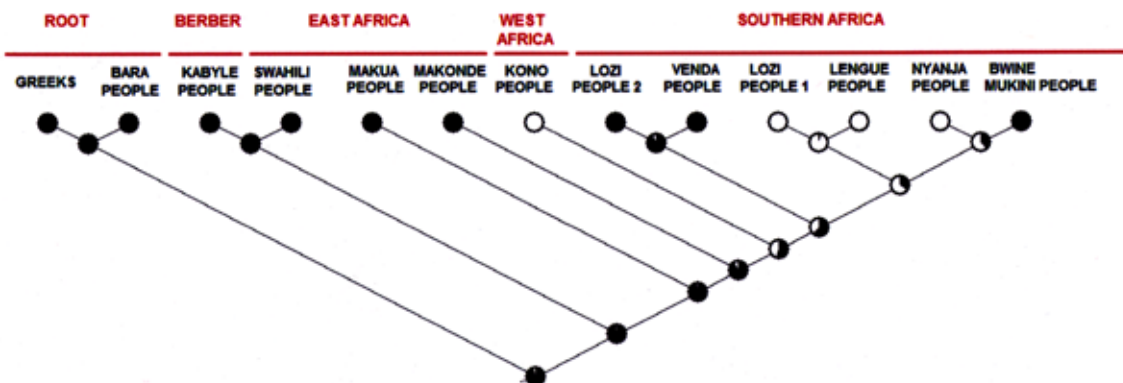


Figure 2. Ancestral reconstruction of the mytheme ‘the sculptor is a human being’ using maximum likelihood.

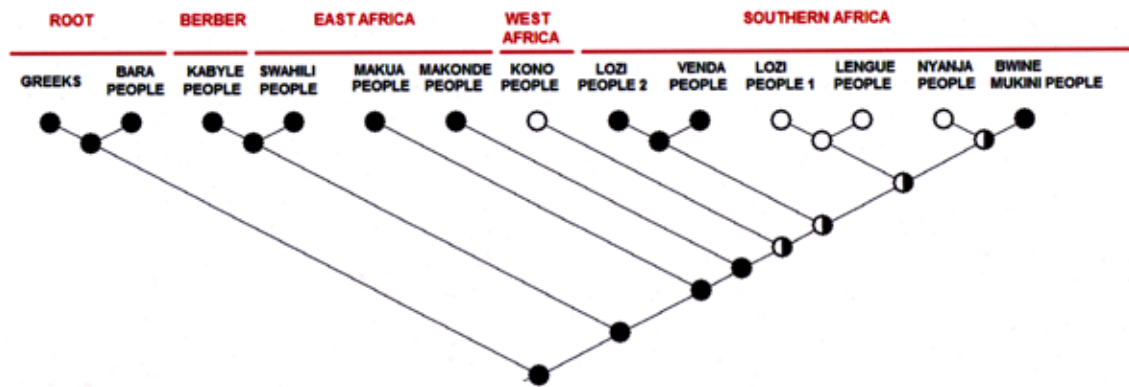


Figure 3. Ancestral reconstruction of the mytheme 'the sculptor is a human being' using parsimony.

being'. For each mytheme, both maximum likelihood and parsimony reconstructions were similar. Maximum likelihood reconstruction with model Mk1 was the following tale: a man makes a wooden statue from a tree-trunk; he or another man clothes it; the statue is seen as a real person and it becomes alive, thanks to another person. A fundamental detail was added with parsimony reconstruction: a man falls in love with the statue. So the protomyth is reconstructed as simplified version of the descendant versions. Of course, it is important to remember that the protomyth is likely to be as rich in complexity as the versions upon which the reconstruction is based.

The protomyth can itself be used to make inferences about the behaviour of its Saharan speakers. It informs us about what they were communicating and documents evidence for a strong belief in the possibility for an image to come to life (as documented by archaeological evidences: d'Huy 2009; d'Huy and Le Quellec 2009; Le Quellec 2012).

The phylogenetic model used in this paper integrates archaeological, mythological and genetic data. It allowed us to make inferences about human migrations; test the impact of mythological borrowings between neighbouring tribes; and reconstruct ancestral states of a mythological family with quantification of confidence and implication in the rock art interpretation.

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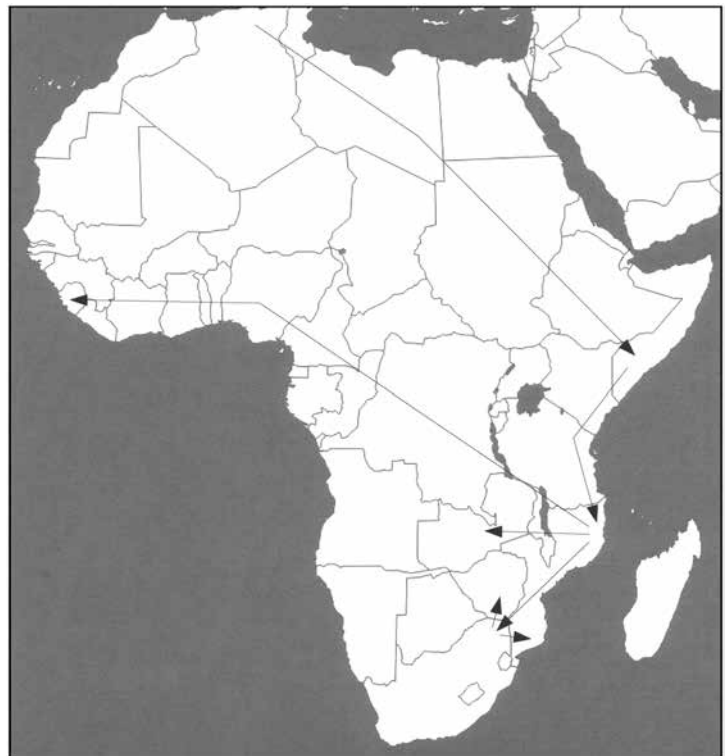


Figure 4. Phylogeography of the Pygmalion myths expansion. Locations of cultures are connected with the phylogenetic tree.

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RAR 30-1075

A brief note on archaeological superposition at the Hensler Petroglyph Site (47DO461), Dodge County, Wisconsin, U.S.A.

By JACK STEINBRING

The Hensler Petroglyph Site (47DO461) (Fig. 1) has undergone limited test excavations from 2005 to 2012. This work has resulted in the completion of seventeen



Figure 1. The Hensler Petroglyph Site. View to south from the north edge of the rock formation. Arrow marks the location of petroglyphs. Photo by author.



Figure 2. Excavations at the Hensler Petroglyph Site (47DO461). Volunteers from left: Kevin Leszczyński, Diann Leszczyńska and Josh Alger. Panel of petroglyphs is to the right, and to the left is a large unexcavated expanse lying above the dome of intermingled Waterloo quartzite and andalusite schist. Photo by author, 2012.

1 m² units, about 1.2% of estimated site size (Fig. 2). The archaeological component of this site lies adjacent to a linear panel of thirty-five petroglyphs (Steinbring and Farvour 1987: 402), iconographically dating from c. 10 000 BP to c. 1290 CE. Recently (2012) the eroded remnants of markings have been found beneath several natural strata of archaeological deposits (Figs



Figure 3. Areas A, B, C and D at which the remnants of marking beneath excavated units occur. Photo by author, 2012.



Figure 4. Close-up of dints at area B of Figure 3. Photo by author.



Figure 5. Especially deep dints which survived the Aeolian ablation of immediately post-glacial times. These dints are at area C of Figure 3. Photo by author.



Figure 6. (A) Hardin Barbed projectile point recovered from Level 8 of the Hensler Petroglyph Site (47DO461) during 2012 excavations. (B) Projectile point from Boone County, Missouri (Waldorf and Waldorf 1987: 73). Scale of 'A' is in centimetres.

3–5). The lower zone of these deposits has yielded a Hardin Barbed projectile point (Waldorf and Waldorf 1987: 73; Justice 1987: 51) (Fig. 6). Points of this type are exclusive to the midwestern United States, and are commonly found in contexts dating to c. 9000 BP. The Hensler specimen is the most northerly known for the type. The provenience at Hensler is at level 8 (of ten levels at 3.0 cm increments), approximately 5.0 cm above the bedrock which



Figure 7. Projectile point imagery. These two views of the projectile point imagery at the Hensler Petroglyph Site (47DO461) reveal two separate images superposed on Face I. At right, the view is from north to south. At left, the view is from south to north. Either view is remarkably similar to a Clovis-fluted point from the Debert Site in Nova Scotia, Canada (as seen at

far right). While other imagery at Hensler is patently Archaic, the only radiocarbon dates so far date to Mississippian times (900–1100 CE). A fluted point was recovered from a site immediately adjacent to the north of the Hensler Site. Both the Debert and Hensler specimens are exactly 11.0 cm in length. Drawing after MacDonald (1968: 74).



Figure 8. Image of a possible atlatl commonly dated to the archaic cultural tradition in the Midwestern United States, Hensler Petroglyph Site. An average date for this imagery is c. 5000 BP. Photo by author 2012.

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RAR 30-1076

contains remnants of petroglyphs. The soil context is aeolian (loess) in an area of central Wisconsin where deposits of this type are prominent (Schultz 2004: 180). It is likely that aeolian ablation, which is immediately post-glacial (10000 BP), itself caused the diminished clarity of the petroglyphs in the archaeological zone. The geological context is consistent with the lithic recoveries in the lowest zone throughout the excavated area of the site. A possible Paleo-Indian projectile point image is present on the main panel (Fig. 7). It closely resembles those of the Debert Site (MacDonald 1968). Archaic imagery is also present (Fig. 8).

As a result of these recent findings, it can be asserted that the Hensler Petroglyph Site is about 10000 years old and is the oldest known rock art site in midwestern North America. The Hensler Site is one of only two rock art sites in Wisconsin on hard rock (andalusite schist). All the others are on friable sandstone. No early iconography appears in the sandstone, leaving the possibility that older markings may have weathered away.

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Abstract and geometrical figurative patterns in Peruvian rock art, the first writing in the Americas?

By GORI TUMI ECHEVARRÍA LÓPEZ

Extensive rock art research on the central coast of Peru has uncovered a surprising archaeological discovery. This is a type of writing first recognised at the archaeological site of Checta, which now constitutes one of the most important repositories of this type of evidence in Peru.

The concept of hieroglyphic or ideographic writing in Peru has already been proposed by San Marcos University archaeologists Pedro E. Villar Córdova (1935) and Toribio Mejía Xesspe (2011[1953]) for the figurative representations of Sechín and Checta sites respectively (that both researchers considered related to the Chavín civilisation — c. 1000 years BCE). Until now, however, this cognitive phenomenon in the Andes has not been documented and systematised in a consistent manner, due to the lack of interest in the rock art or *quilcas*¹ as key archaeological material, and the lack of

¹ The word 'quilca', following the sixteenth century Quechua or Aymara vocabularies and dictionaries, refers to the act of painting or drawing and even writing (Echevarría 2009). In 1936 Javier Pulgar Vidal made the first toponymic association between the terms 'quilca', 'qelca', 'quellca' etc., with archaeological sites with rock



Figure 1. Quilca from Chocas.

long-range scientific research. This is currently being overcome, as our understanding of the archaeological significance of quilcas grows and the ability to conduct more in-depth research has developed.

The first indications of this phenomenon were found in the pre-Chavín archaeological site of Chocas in 2001 (Echevarría 2004). The petroglyphs examined in this site allowed us to set a parameter for a formal comparison with Checta's quilcas and conclude that the quilcas of this last site possess an independent graphic complex predating the emergence of the Chavín civilisation in the Andes, and previous — over two thousand years — to the conventional chronology of Checta relating it to the Early Intermediate Period (approx. 0–800 CE) that was assigned by French archaeologists at the end of the 1970s (Guffroy 1987). Based on that correlation, an extensive analysis of the Checta site was carried out, corroborating that it possesses at least four phases of petroglyph production, each one with an independent cultural charge, that is, produced following different social behaviour parameters that relate to different cognitive ideological premises; but together forming a long social tradition of graphical realisation (Echevarría 2011). Through varied contextual information we could establish that the Checta sequence began in phase 1 (approx. 2500–2000 years BCE), composed of rocks with cupules or small holes made by percussion; continued in phase 2 (approx. 2200–1000 years BCE), composed of

art in Peru (Pulgar 1946), rediscovering the original native nomination of this phenomena, which comprises all its variants, like petroglyphs, pictograms, movable rock art or geoglyphs.

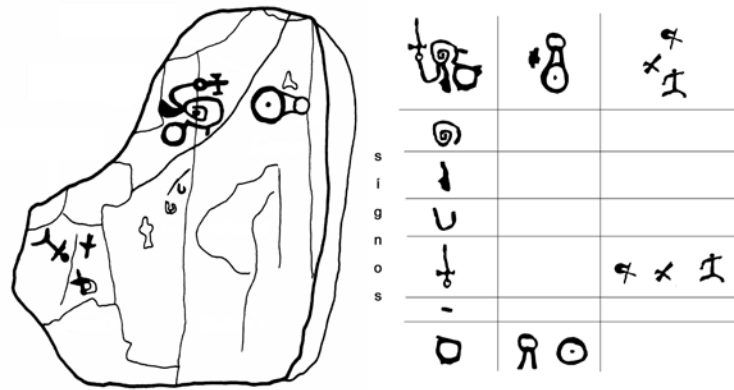


Figure 2. Quilca from Chocas with isolated motifs.

abstract geometric motifs; phase 3 (approx. 1200–600 years BCE) was composed of semi-naturalistic anthropomorphs and zoomorphs; and ended in phase 4 (approx. 800–200 years BCE), characterised by semi-naturalistic motifs representing *amarus* (snakes). From the whole sequence, the second phase was the most extensive and is responsible for the configuration of almost all the archaeological site.

Isolating the groups in the sequence, we find that there are strong formal and figurative resemblances between the quilcas of Checta's phase 2 and other sites of the period, including Chocas, Pucará and Quivi in the Valley of Chillón, that support the notion of a contemporary specific cultural trait (Echevarría 2010, 2012; Infazón 2010). Furthermore, archaeological sites such as Antapucro and Quebrada Verde in the Lurín valley; Yanacoto, Chosica and Santa Felicia in the Rímac valley, and the site of Caral in the Supe valley are part of this graphic and cognitive complex. Close range evidence has also provided proof that most of these sites are spatially associated with sites with monumental architecture from the pre-ceramic period until the arrival of the Chavín influence in the Lima region (2500–1000 BCE), and that most of the sites are located in the Yunga² region, which gives the evidence a solid base of correspondence.

In 2011, together with archaeologist Rubén Wong, we proposed that phase 2 of Checta actually contains the oldest writing discovered in Peru (Wong and Echevarría 2011). This ideographic or logographic writing has certain features that are worth highlighting here in order to understand its real dimensions: firstly, there is a considerable period of time from its first appearance in the archaeological record to its demise, probably over 1500 years, which hypothetically is an adequate

² The term 'Yunga' defines a geographical region in the Andes, as it was known for the native people of Peru. Pulgar Vidal (1946) distinguishes two yungas: 'Yunga marítima' for the hot valleys belonging to the Pacific Ocean drainage, and 'Yunga fluvial' for the hot valleys in the Amazonian basin (Pulgar 1946). In this paper the term Yunga refers the hot lands in the middle valleys of rivers flowing to the Pacific, down until the sea border.



Figure 3. Quilca from Purará.

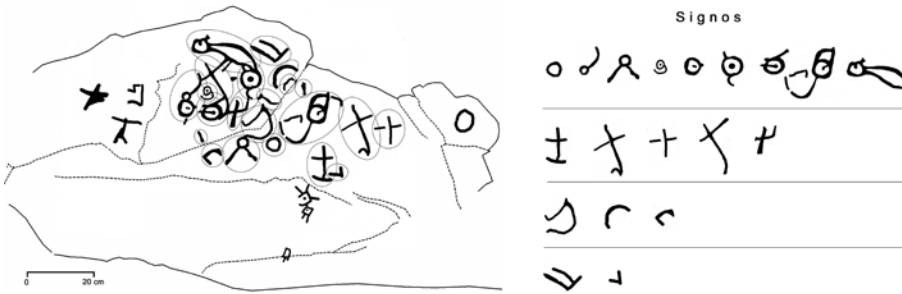


Figure 4. Quilca from Pucará with isolated motifs.



Figure 5. Quilca from Checta.

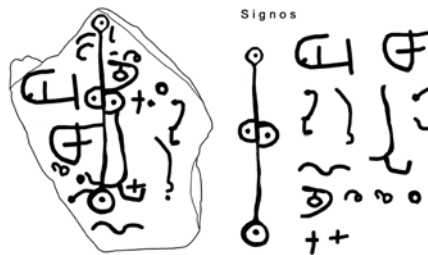


Figure 6. Quilca from Checta with isolated motifs.

amount of time for the formation and the development of a writing system. Secondly, the evidence is spread out across a territory of considerable ex-

tent — occupying at least six drainage basins in the central coast region of Peru. This is a huge area if we consider that the maximum range of expansion for most recognised ceramic cultures of Lima is three to four valleys. And lastly, its materialisation coincides clearly with the rise of the complex civilisation in the Andes whose centre on the central coast is located on the site of Caral, considered by Peruvian archaeologists as the heart of a highly developed state society that spanned from Supe valley to Lurín valley (Shady and Leyva 2003), practically the same extent as the distribution of the so-called writing of Lima. Finally we can add the fact that hypothetically there must be a common spoken language throughout the area, which could be implicated by the evidence as a linguistic fact of its existence.

From an analysis of the rock art we could verify that this evidence comprises of a series of elements that is repeated constantly in the majority of archaeological sites with quilcas, therefore, hypothetically being graphic signs of a similar communication system. Although this graphic horizon has been defined by abstract and geometric patterns, we can now recognise that there is a regular progression in the conformation of the signs that are part of this system, characterised by the conspicuous presence of spirals, circles, circles with dots, circles with projected lines, crosses and lines of varied typology;

elements that may appear isolated or combined to form highly complex compound signs as seen in Chocas (Figs 1 and 2) or Pucará (Figs 3 and 4), Checta (Figs 5, 6, 7 and 8) or Quivi (Figs 9 and 10) for example. For more than 1500 years this system has been able to keep developing and it constitutes an unprecedented advance in the cognitive progress of Andean people.

Until about 1200 BCE, this communication system in the Lima region seems to have maintained its regular status as a fundamental element of the existing language, but its subsequent development was apparently truncated by the impact of the Chavín civilisation. Checta shows motifs representing zoomorphic or anthropomorphic heads, 'felines' and other animals, that in one case accompany old motifs as



Figure 7. Quilca from Checta.



Figure 8. Quilca from Checta with isolated motifs.

graphic remnants of phase 2, which means an overlay or a significant intrusion into the graphical continuity in the site that implies a decline of the communicative system. Although Checta shows evidence of this, the archaeological site of Cantería in Rímac basin constitutes stronger evidence of this as its quilcas are composed of a main motif describing two heads in opposition (Abanto and García-Godos 2004) (Figs. 11 and 12), figuring in the 'dragoniano style', which is a characteristic style of the Offerings Gallery in Chavín de Huantar. This image has also been accompanied by several motifs of phase 2 in clear allegory to the prevailing graphic system until the arrival of Chavín graphic art. Through this influence the abstract and geometrical quilca language of Lima is discontinued and apparently disappears.



Figure 9. Quilca from Quivi.

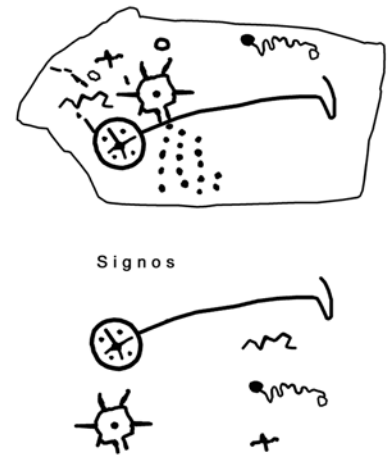


Figure 10. Quilca from Quivi with isolated motifs.



Figure 11. Quilca from Cantería.



Figure 12. Quilca with figurative motif from Cantería (after Abanto and García-Godos 2004).

If this is a writing phenomenon, what forces really instigated its demise is still a pending issue, but it is possible that Chavín, with its own graphic com-

municative system as indicated by archaeologist Pedro Vargas (2011, 2012), played a significant role in this event. In 1923, the highly regarded Peruvian archaeologist Julio C. Tello from San Marcos University hypothesised that the influence of Chavín civilisation subverted the graphic forms of the preceding societies, and he was not wrong. Until today all the evidence

indicates that Chavín civilisation and the Wira-Kocha cult originated, as Tello said (1923, 1929), a new world in the Andes; and in this new world, the Lima writing would not continue.

Acknowledgment

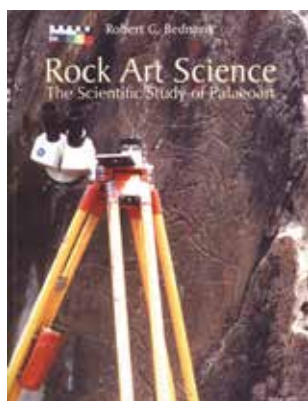
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RAR 30-1077



Rock art science: the scientific study of palaeoart

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RAR REVIEW

Murs d'images. Art rupestre du Sahara préhistorique, by JEAN-DOMINIQUE LAJOUX. 2012. Éditions Errance, Paris.

In addition to being a highly professional documentation of one of the most beautiful rock arts in the world, *Murs d'images* is a thoughtful reflection (a manifesto, really) on independent research and how it contributes to the vitality of the field of palaeoart. It is, as well, a powerful commentary on dogmatic tendencies and their pernicious effect on rock art research. A fine photographic record of an ancient naturalist plastic experience, the book also provides valuable material for formulating and testing scienti-fic hypotheses relating to the physiological and neuro-psychological conditions of aesthetics and the development of rock art.

The author, J.-D. Lajoux, is a self-taught expert in the art of light and lenses who began his documentary life in the forests of Southeast Asia, where he used his cinematographic skills to record the remote cultures of Hmong. In 1956, he joined H. Lhote's mission to record the paintings of the Tassili, in Algeria. Convinced that photography is more suitable for recording rock art, an idea Lhote totally rejected, Lajoux returned to the Tassili in 1960 and 1961, alone with a guide, and produced one of the rare books on the art of the area, *Merveilles du Tassili n'Ajjer*, published in four languages, as well as a film, *Tassili n'Ajjer*. Another visit to the Tassili in 2009 produced *Murs d'images*, which is a retrospective assessment of the author's own work in light of the evolving scientific, technological and institutional changes in the field during the last fifty years.

Underscoring the importance of individual initiative and independent research, the earlier chapters of *Murs d'images* (pp. 15–60) include a tribute to the early French explorers of the Tassili, C. Brenans in particular, not only for his industriousness and his passion for Saharan rock art, but also for the mistreatment he received at the hand of Lhote, a man driven more by ambition, dogmatic rigidity, and a quixotic sense of intellectual achievement.

Colluding with established universities, museums, publishing establishments and the French colonial administration of Algeria, Lhote acted like a feudal lord, treating the Tassili as his own fief, denying access or credit to others. He presided over the reproduction of some of the paintings of the Tassili, which he insisted all be executed in hand-drawing in spite of the availability

of photography (and plenty of natural light). The exhibitions and publications that followed were overly sensationalised in spite of the imperfect nature of the reproductions and even the occasional fakes (which the artist workers invented to amuse themselves listening to Lhote pontificate on their significance). In addition to being imperfectly reproduced, the paintings were also fantastically interpreted. As M. Verité put it, '*on pâlit l'absence d'information par le recours à sa propre imagination et a tout travestissement exotique en vogue dans le siècle*'.

Yet, through publication, Lhote's imperfect records and distorted interpretations acquired an undeserved longevity, pointing to some of the paradigmatic flaws that still burden the scientific study of rock art: false or subjectively-interpreted images acquire vogue and get printed and reprinted, even in the face of scientific objections. This self-propagation is still sustaining other distorted and misleading approaches to rock art, such as the theory of shamanism. It is in this respect that Lajoux's books, the first in particular, are a bold stand for the proper method of recording rock art and a denunciation of the unethical misuse of science to validate the fantastical and superstitious in the study of palaeoart.

In the rest of *Murs d'images*, Lajoux expounds on his approach to the archaeology of rock art and his understanding of its content, chronology and evolution. The focus being mainly on paintings in the area of the Tassili, the book follows the established sequencing of the Saharan rock art, emphasising the pastoral periods, the height of which is chronologically situated around the seventh millennium BP.

The pictures are beautiful, often enhanced by a wide angle that gives the scenes a photographic integrity lacking in most books that selectively focus on one or few figures, which deprives the reader of important pictorial context. Lajoux also captures the great skill with which the Saharan Neolithic artists depicted their life: the people, their physiognomy, their dwellings, their hunting tools, and their social and family preoccupations. The ingenuity, precision and attention to detail in these images are stunning. This can be seen, for example, in the capture of the vanishing point against which the archer checks the straightness of an arrow in front of his eye (p. 192). The Saharan artists also carefully studied their animal subjects, their forms, movements and moods. For example, in the watering scene, where exquisite drawings of sheep

are cleverly combined with a fissure in the supporting rock to give the illusion of a stream, Lajoux spots two sheep which, instead of drinking like the rest of the herd, are looking at the beholder (p. 114). In another scene, the cow's mooing is almost audible (p. 134). Other moving moments include a cow giving birth with the calf emerging from her womb (p. 177), and a mother antelope cleaning her wobbly newly-born calf (p. 115).

It is not only for their splendour that the images of the book are appreciated; Lajoux's documentary work is important to our understanding of rock art in other significant ways, including the techniques and execution of this art. We know, for example, that in depicting animals, the Magdalenian and Kalahari San rock artists tended to draw the cervico-dorsal line with the horns and tail and then the hind leg, followed by the head, front legs and finally the abdominal area. In the Tassili paintings, Lajoux documents a tendency towards the use of outline followed by infill. In human figures, the body was outlined first, while the hands and head were drawn later (pp. 186–189).

Detailed and naturalist paintings and engravings have sometimes revealed valuable information about the conditions of life in pre-Historic times, helping us identify climates and even recognise signs of the seasons, such as rutting, fawning, fur coats and flowers. These depictions have assisted in the tentative identification of animal species and their geographic distribution. R. Guthrie, for example, pointed to the various spots and coat marks on the Upper Palaeolithic animals and their possible relation to surviving species. Looking into the evolution of cattle coat patterns, C. Dupuy and D. Bernard also compared hundreds of rock paintings in the Tassili-n-Ajjer to present-day animals, showing that most of the polymorphic coats of Neolithic cattle were depicted realistically. Beyond these patterns, the authors tried to speculate about the breeding traditions in two different periods of time and the social and cultural dynamics among peoples of the area. Friedrich Berger investigated the different ways of representing cows' udders that are dominant in the Sahara. In all these studies, the availability of documents such as *Murs d'images* has been indispensable.

The potential of Lajoux's work to aid in the scientific study of rock art extends to other investigative areas. For example, until fairly recently, the study of masks and body decoration has focused on the religious and ceremonial aspect of these cultural artefacts. The decorative traditions depicted in the Tassili, which are best recorded in Lajoux's work, may also be relevant to the growing inquiry into the neuro-psychological aspects of rock art. For example, the antiquity of the elaborately painted masks and body decorations of the Tassili may echo the hypothesis of D. Hodgson and P. Helvenston concerning the possibility of rock art arising out of hunting and the practice of camouflage. Also, to the extent that they preserve the imprints

of their author's sensorimotor gestures and emotional experience, the rock art scenes in *Murs d'images* also lend support to the neuro-physiological studies of rock art (Achrati, forthcoming). Indeed, functional studies of the mirror system have shown that in painting, drawing and sculpture, the artist's hand leaves invisible but detectable traces which are directly accessible to the observer even a long time after the action has taken place. These traces include line patterns, strokes, brushworks and vigorous application of the hand in modelling or shaping the medium. Because of their elaborations and their richness, the Tassili paintings documented by Lajoux are a trove for such inquiries.

The book addresses one of the problems that dogged early recording of rock art, namely the practice of washing, which, like chalking and charcoal enhancement, gave freshness to the image but not without damaging consequences. Lajoux discusses it with a mature responsibility, acknowledging that, unfortunate as it may have been, the widespread use of this practice was part of a learning curve. Indeed, even Le Quellec, who spoke against the practice of washing in his introduction to the book, contributed pictures that show all the lustre of a good washing (e.g. p. 117). Lajoux also notes that recent developments in scanning, electronic imaging and archaeological probing are welcome news for rock art documentation.

Organised in small and beautifully-illustrated sections, the book is a reflection of the high aesthetic standards of its author, his broad anthropological insights that derive from scientific investigative methods, coherent logic and balanced arguments. *Murs d'images* is an easy, enjoyable and fruitful read.

Dr Ahmed Achrati

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RAR 30-1078

Kimberley rock art. Volume two: north Kimberley, by MIKE DONALDSON. 2012. Wildrocks Publications, Mount Lawley, Western Australia, profusely illustrated throughout with more than 400 colour plates, 395 pages, 28 × 28 cm, 2.62 kg, bibliography, \$A130.00 plus postage \$A20.00 in Australia, hardcover, ISBN 978-0-9805890-3-0.

The second volume of Dr Mike Donaldson's ambitious trilogy on the massive corpus of Kimberley rock art follows hard on the heels of his first volume (see RAR 29: 260–1), with a third tome still to come. It meets the author's established formula of limiting commentary to a bare minimum and providing a sprinkling of stunning landscape shots from one of the planet's last remaining wilderness areas, offering yet another feast for the eyes from this accomplished rock art photographer. The book's only text section, the Introduction, is just

three pages, following a brief Foreword by Lee Scott-Virtue. Donaldson elaborates on the nomenclature he introduced in his previous volume, by comparing the Wunambul Gaambera terminology of the main groups of Gwions with those of the Balanggarra. It turns out that there are only two differences: the Mambi Gwions and Wararrajai figures of the former people are called Ngunuru Gwions and Dalal Gwions by their northern neighbours.

This volume introduces the rock art of the northern coastal region of the Kimberly, and the sites located along the Drysdale and King Edward Rivers. Again the author has wisely avoided the pitfalls of imposing an ossifying taxonomy on the rock art, and has attempted to keep interpreting commentary to a minimum. He has also avoided authoritative pronouncements of the kind so often flaunted by rock art authors, such as assertive superimposition sequences. Where he was not certain of what preceded what, he states so, rather than allowing himself to make enticing but rash judgments. In this restraint his approach differs from that of some others, and as a careful contemplation of many of his photographs will show, the perceived sequences derived from too many certainties in superimpositions are perhaps not quite as clear-cut as some have found them.

The overwhelming impression the reader of this book tends to glean from its rich imagery is that there is far greater artistic diversity in this body of palaeoart than the regimented taxonomies would convey. Page after page there are numerous images that diverge greatly in their style and treatment from the main divisions generally recognised. Consider, for instance, the dictum of how Wanjinias are depicted, in viewing the 'square Wanjinias' shown on page 362 and 363, which seem to break all the rules of the convention, but occur immediately next to typical round-headed specimens. The only apparently clear-cut stylistic succession of Kimberley rock art appears to be from Gwion traditions to Wanjina art, but the latter may coincide or overlap with the painted hand genre (e.g. p. 387). Other than that, the received sequences are not carved in stone at this stage.

More specific observations occurring to this reviewer include the following. Donaldson notes that the groups of dots near the heads of the figures on p. 71 seem to have some meaning, perhaps representing breath or even words. That may well be the case, but what is perhaps also apparent is that such a convention occurs occasionally in Arnhem Land as well. This adds to the growing impression that the two major rock art regions of northern Australia may not be poles apart, as several commentators have observed. Even x-ray treatment seems to occur in the Kimberley occasionally, see for instance p. 144; and both regions share the presumed thylacine depictions, found in this volume on pp. 166, 201 and 265.

A significant difference, however, between these two major rock painting corpora, is the notable absence

of contact art in the Kimberley, so common in Arnhem Land — as well as in Cape York Peninsula. But what this reviewer finds most surprising about Donaldson's images is the palpable absence of marine species from the coastal sites he considers. The central thesis of Chaloupka's Arnhem Land rock art sequence concerns the perceived presence or absence of species indicating the proximity of the sea. The littoral rock art of northern Kimberley seems to negate the hypothesis that the supposedly depicted fauna is necessarily representative of the environment. It may be more pertinent to assume that rock art represents the cultural priorities of its creators. That is certainly the impression gained from Kimberley rock art.

The depressions seen on p. 172 are probably not cupules, as noted in the image's legend, but mortars or grinding hollows, perhaps used in paint production. A fascinating phenomenon is seen on pages 252 and 253: a series of white Gwion figures appears to have been painted in red paint originally, but is now concealed by a water-deposited white mineral film, apparently of carbonate, that has been preferentially precipitated to provide clear outlines of the underlying red paintings.

Throughout the book there are numerous images showing painting panels being consumed by rock spalling, usually caused by brushfire, which vividly bring into focus the report by Lee Scott-Virtue and Ju Ju Burriwee Wilson, presented at the AURA Inter-Congress Symposium in Adelaide last September, about the impact of indiscriminately lit fires on many rock art sites in the region. This is clearly a serious issue in the Kimberley rock art region.

Donaldson's second volume of his Kimberley trilogy is as magnificent as his first, and deserves to stand next to the first on your bookshelf. But keep a space free for the third volume, which this most productive producer of heavyweight rock art tomes promises to present soon.

Robert G. Bednarik

Melbourne, Australia

RAR 30-1079

RECENT ROCK ART JOURNALS

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

Number 63 (2012):

CLOTTES, J. and M. DUBEY-PATHAK: Ceremonial use of rock art in central India.

ICOMOS: Rock art: pre-nomination guidelines to propose an inscription on the World Heritage List of

UNESCO.

APPELDOORN, L., L. REMACLE and M. OTTE: The Santa Marta rock shelter (Iraquara, Baha, Brazil).

Number 64 (2012):

CLOTTE, J.: U-series dating, evolution of art and Neanderthal.

AZÉMA, M., B. GÉLY, R. BOURRILLION and P. GALANT: The Palaeolithic art of Baume Latrone (France, Gard): new dating elements.

GARCÍA-DIEZ, M., B. OCHOA, J. A. MUJICA, X. PEÑALVER and S. SAN JOSE: Paleolithic cave art in Praileaitz I Cave (Gipuzkoa, Spain).

GARATE, D. and J. RIOS-GARAIZAR: The Magdalenian parietal art of Lumentxa Cave (Basque Country).

CORBALÁN, M., S. RODRÍGUEZ CURLETTO and E. DEL BEL: Archaeology, identity and tourism: La Overjeria Petroglyph Tourist Trail (San Pedro de Colalao, Tucumán, Argentina).

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

Volume 22 (2012):

BEDNARIK, R. G. (with comments by N. Chandramouli, J. N. Pal and V. H. Sonawane): Underrating the ancients.

KRISHNA, R. and G. KUMAR: Understanding the creation of early angular cupules on hard quartzite rock at Daraki-Chattan by direct percussion method: a preliminary study.

KUMAR, G.: Beginning of cattle domestication in India with special reference to Chambal valley: perspectives of rock art and archaeology.

CHANDRAMOULI, N.: Beginning of cattle domestication in Andhra region: perspectives of rock art and archaeology.

PRASAD, A. K.: Beginning of cattle domestication in southern Bihar and adjoining Jharkhand: perspectives of rock art and archaeology.

PAL, J. N.: Beginning of agriculture and domestication during the early farming culture in the Vindhya.

GARNAYAK, D. B.: Early animal domestication in southern Eritrea: perspectives of rock art and archaeology.

PAWAR, K. A.: Petroglyphs from Hirapur megaliths.

CHANDRASHEKHAR, H.: Observations on rock bruising at Watgal in Karnataka.

Almogaren. Journal of the Institutum Canarium. Edited by HANS-JOACHIM ULBRICH. The most recent issue includes these articles:

Volume 43 (2012):

YAHIA, S. A. A.: Les peintures et gravures rupestres en Grande Kabylie.

UNTERBERGER, G.: Schiffswelten in Altsardinien — die 'sardo-phönizischen' Stierboot-Bronzen.

GOZALBES CRAVIOTO, E.: Observaciones sobre el conjunto megalítico de Mezora (Arcila, Marruecos).

SÁENZ DE BURUAGA, A.: Recherches culturelles sur le Sahara Occidental.

STEINER, H.-E.: Ritual-Höhle für Jünglinge der Osterinsel: 'Ana More Puku' auf Rapa Nui / Osterinsel.

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 papers:

Volume 26 (2012):

STRECKER, M., L. METHFESSEL, C. RIVERA, F. TABOADA and P. LIMA: Caminos destruyen sitios de arte rupestre en Bolivia.

METHFESSEL, C. and L. METHFESSEL: Representaciones de serpientes en el sur de Bolivia. Una aproximación preliminar.

STRECKER, M.: El arte rupestre de Lik'ichiri Cueva, Betanzos, Depto. de Potosí — nota adicional.

HOSTNIG, R.: Pinturas rupestres postcolumbinas de la región de Escoma, Depto. de La Paz, Bolivia.

GUFFROY, J.: Checta, un sitio de petroglifos en la costa central del Perú.

Sahara. International journal of pre-History and History of the Sahara, with a strong emphasis on the region's rock art. Edited by D. CALATI, G. NEGRO, A. RAVENNA and R. SIMONIS. The most recent issue includes these articles:

Volume 23 (2012):

VERNET, R.: Le Chalcolithique de Mauritanie (3000-2500 calB.P. État de la question.

LE QUELLEC, J.-L.: Iconoclasties rupestres au Sahara.

CURCI, A., A. URCIA, L. LIPPIELLO and M. C. GATTO: Using digital technologies to document rock art in the Aswan-Kom Ombo region (Egypt).

EL-BIALY, M., L. LIPPIELLO and A. KELANY: Rock art in Wadi Silwa Bahari, Egypt. Part 1: occasion of discovery and site content.

BEN NASR, J.: Des gravures rupestres de la Tunisie centrale: Jebel Ousselat.

HUYGE, d. and P. STOREMYR: A 'masterpiece' of Epipalaeolithic geometric rock art from el-Hosh, Upper Egypt.

MENARDINOQUERA, A. and A. ZBORAY: Elongated human figures, large cows and tethered wild animals from the northern Jebel Arkenu (Libya).

MAESTRUCCHI, F. and G. GIANELLI: 'Teste rotonde' del bassopiano. Il sito di Tilleline (Tassili-n-Ajjer).

ACHRATI, A.: Women, music and rock art in ancient Arabia.

ZBORAY, A.: An unpublished shelter with prehistoric engravings of a possible late Pleistocene date in the north-central Sinai (Egypt).

MILBURN, M.: Thoughts on 'keyhole monuments', 'goulets' and some rock carvings.

RECENT BOOKS OF INTEREST

Memorias del arqueólogo Eloy Linares Málaga, by ELOY LINARES MÁLAGA. 2011. Universidad Alas Peruanas, Lima, 285 pages, illustrated with colour and monochrome images, softcover, ISBN 978-612-4097-13-3.

Congreso Internacional 'Arqueología y Arte Rupestre 25 Años SIARB', La Paz, Bolivia, 25-28 de junio, 2012: Documentos, edited by MATTHIAS STRECKER. 2012. Contribuciones al Estudio del Arte Rupestre Sudamericano 7, Sociedad de Investigación del Arte Rupestre de Bolivia (SIARB), La Paz, 143 pages, softcover, ISSN 1017-4354.

International conference on rock art 2012: understanding rock art in context, edited by B. L. MALLA. 2012. Indira Gandhi National Centre for the Arts, New Delhi, 116 pages, illustrated in colour throughout, softcover.

The world of rock art: an overview of the five continents, edited by BANSI LAL MALLA. 2013. Indira Gandhi National Centre for the Arts and Aryan Books International, New Delhi, with contributions by A. Solomon, J.-L. Le Quellec, R Querejazu Lewis, L. Loendorf, R. G. Bednarik, V. H. Sonawane and E. Anati, 170 pages, illustrated in colour, hardcover, ISBN 978-81-7305-447-1.

RECENT PAPERS OF INTEREST

A re-consideration of the rock engravings at the burial site of Namoratung'a South, northern Kenya and their relationship to modern Turkana livestock brands, by THEMBI RUSSELL and PURITY KIURA. 2011. *South African Archaeological Bulletin*, Volume 66, Number 194, pp. 121-128.

Discovery of Lower Palaeolithic petroglyphs from central India and its impact on the concept of cognitive and cultural evolution of the hominins, by G. KUMAR and ROBERT G. BEDNARIK. 2011. In *Rock art in modern society. On the 290th anniversary of the discovery*

of Tomskaya Pisanitsa. Proceedings of the international conference, Volume 2, pp. 181-188. Kuzbassvuzizdat, Kemerovo.

An unusual case of overpainting in an Eastern Cape Province rock art site, South Africa, by DAVID G. PEARCE and LEANNE GEORGE. 2011. *South African Archaeological Bulletin*, Volume 66, Number 194, pp. 173-177.

The origins of human modernity, by ROBERT G. BEDNARIK. 2011. *Humanities*, Volume 1, Number 1, pp. 1-53.

Aplicación de la filosofía de la ciencia en la investigación del arte rupestre, by ROBERT G. BEDNARIK. 2011. *Boletín APAR*, Volume 3, Number 9, pp. 272-276.

Decoding landscape in prehistoric and tribal art, by EMMANUEL ANATI. 2011. *Arkeos*, Volume 29, pp. 15-22.

Arte rupestre, paisagem e identidades na arte rupestre de Angola: Namibe de Ebo, by LUIZ OOSTERBEEK. 2011. *Arkeos*, Volume 29, pp. 23-33.

Genetic drift in recent human evolution?, by ROBERT G. BEDNARIK. 2011. In Kevin V. Urbano (ed.), *Advances in Genetics Research. Volume 6*, pp. 109-160. Nova Press, New York.

Le langage des formes en arts Paléolithiques, by MARCEL OTTE. 2011. *Arkeos*, Volume 29, pp. 35-41.

Organização do território através da arte rupestre: o exemplo do Arroyo Barbaón no Parque Nacional de Monfragüe (Cáceres, Espanha), by HIPÓLITO COLLADO GIRALDO et al. 2011. *Arkeos*, Volume 29, pp. 43-57.

Arte rupestre como produto da inteligência especial, by SANTIAGO WOLNEI FERREIRA GUIMARÃES. 2011. *Arkeos*, Volume 29, pp. 59-72.

Evolutionary origins of brain disorders in *Homo sapiens sapiens*, by PATRICIA A. HELVENSTON and ROBERT G. BEDNARIK. 2011. *Brain Research Journal*, Volume 3, Number 2, pp. 113-139.

The landscape setting of the rock art sites in Kunene region, Namibia, by ALMA MEKONDJO NANKELA. 2011. *Arkeos*, Volume 29, pp. 73-82.

Introduction. Rock art in a global perspective: introducing a selective bibliography, by ROBERT G. BEDNARIK. 2011. In Kamal K. Misra, Sudhir Shrivastava and Mohammad Rehan (eds), *Rock art of India: a selective bibliography*, pp. 1-18. National Museum of Mankind, Bhopal. Serials Publications, New Delhi.



ORIENTATION

Final victory at Murujuga imminent

The longest-running campaign in history to secure the preservation of a rock art precinct is nearing its end. The remaining two major objectives, the establishment of a national park in the Dampier Archipelago, Western Australia, and the nomination of the precinct for World Heritage listing are expected to be met during 2013. On 17 January 2013 the Government of Western Australia declared the state's 100th national park. It will occupy significant parts of the island of Murujuga, including most of the Burrup Peninsula.

All of the original requests by the International Federation of Rock Art Organisations (IFRAO) will be met, including the demand that the national park be managed by Indigenous rangers, that it be given an Aboriginal name, and that the land be repatriated to the Aboriginal community. The *Murujuga National Park* will be jointly managed by the Murujuga Aboriginal Corporation and the Department of Environment and Conservation (DEC). The Murujuga Aboriginal Corporation has recently set up a ranger program to train rangers. Under an historic native title agreement, this arrangement heralds the transfer of non-industrial lands at Dampier to an Aboriginal organisation as freehold land.

Ron Critchley, the CEO of the Murujuga Aboriginal Corporation, expects that the joint management plan will serve as a model for other such agreements, as this will be one of Australia's few national parks where the land will be managed mainly by a local Aboriginal ranger program instead of the relevant government agency. The DEC is also optimistic about the relationship and says it will provide quality control while the Murujuga rangers manage the new national park.

Another long-standing demand of IFRAO concerns the thousands of petroglyph-bearing boulders that have been progressively removed from their respective Murujuga sites since 1980 and kept in storage compounds. They will also in a sense be repatriated, in that they will be moved to final locations. They will be erected in three groups, according to Aboriginal requirements: one group will only be accessible to male custodians, another only to female custodians, while the remainder will form a group accessible to the public.

The final request of IFRAO, also first publicly voiced almost twenty years ago (Bednarik 1994), is the nomination to UNESCO for World Heritage listing. It is understood that the federal government has now commissioned the production of a nomination document for the Dampier Rock Art Precinct. This would presumably result in meeting all of the demands made by the campaign to save the Dampier rock art (Bednarik 2002a, 2002b, 2004a, 2004b, 2005, 2006a, 2006b, 2007a, 2007b, 2011, 2012; Mulvaney 2011). That campaign began in 1969 and 1970, when I wrote several letters to the Western Australian Museum, requesting that the destruction of Dampier rock art be brought to an end. In the mid-1990s, after I petitioned four federal ministers, an alternative location for the region's industry (Maitland Heavy Industry Estate) was established and there was to be no further development at Dampier. But in early 2001, the state government reneged on this agreement, and sought to create the largest industrial hub in the Southern Hemisphere on Murujuga, inviting about eighteen major international companies to participate in this massive development plan. I wrote hundreds of petitions and submissions to governments, companies, financiers, major shareholders, embassies and trade unions, and all except one of the proponent companies decided not to endanger the rock art (Bednarik 2007b). As the state government offered them no alternative location, this led to the loss to Western Australia of dozens of billions of dollars in investment — by far the greatest economic effect of any campaign to preserve rock art (the second-greatest consequence of a rock art campaign, IFRAO's *Côa* action, cost the Portuguese government 'merely' \$200 million). Most of the large companies who eschewed the Dampier proposal were lost completely to the Australian economy, a lasting monument to the incompetence of the Gallop and Carpenter governments of Western Australia.

Thus it took from 1969 to 2007 to protect most of the surviving Dampier rock art by placing it on the National Heritage List, for which I had made application on 22 March 2004. It took a further six years, from 2007 to 2013, to secure the full level of recognition of the rock art monument that I had demanded for decades. It appears that during the present year, the Dampier Campaign can be wound down and limited to monitoring of rock art deterioration and aspects of compliance. It took over forty years to come this

far, but in this protracted process IFRAO has learnt a great deal. The course of the next major confrontation over rock art protection, wherever in the world it will occur, will be determined by the experience IFRAO has accumulated through the C oa, Guadiana and Dampier experiences. Next time, the battle will be more decisive.

Robert G. Bednarik

Melbourne

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RAR 30-1080

Tasmanian spring

In Tasmania, too, the dark ages for rock art may be coming to an end. IFRAO's severe criticisms of the island's cultural heritage protection laws, which are deemed to be responsible for the widespread vandalism of rock art sites (Sims 2006; Bednarik 2006, 2007), has prompted the government of the island state to review its relevant legislation (principally the *Aboriginal Relics Act 1975* and the *Tasmanian Heritage Act 1995*). Anti-Aboriginal sentiments in Tasmania dating back to the early 19th century, but remaining entrenched in sections of today's society (see Sims 2006), provide the explanation for the endemic neglect of the indigenous immovable cultural heritage of the

island. This anachronistic attitude is validated by the State's protective legislation, which is similarly obsolete. To illustrate its gist, the maximum fine for vandalising historical heritage is \$A500 000, whereas the corresponding fine for destroying rock art is only \$A1000. Since 2006 IFRAO petitioned political leaders in Tasmania, which in addition to the commendable lobbying of Peter C. Sims over several years has led to a review of Tasmania's laws to bring them in line with the mainland states of Australia (Bednarik 2006). The promises of improvement were not sufficient to reassure IFRAO, and to warrant their translation into effective action I recommended that researchers should not make locations of newly found rock art sites available to any state agency. The essence of this ban, which has already affected rock art sites, is to emphasise that a government unwilling or unable to effect the protection of immovable cultural heritage on the territory of its sovereignty forfeits the right to be informed of that heritage. (This policy will form a key measure in the future strategy of IFRAO in dealing with obstinate governments throughout the world.)

During 2012 a draft Aboriginal Heritage protection bill was developed by the Department of Primary Industries, Parks, Water and Environment, under the direction of policy analyst Alan Haig. This culminated in a six-week public consultation process ending in December 2012, the results of which can be viewed at <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/JSMH-9354VV?open> (41 submissions). According to the current draft, the new penalties for vandalism are expressed in penalty units, which rise periodically with inflation but are currently set at \$A130. The penalty applicable to the vandalism of rock art according to s.28(1)(b) will be 10 000 PUs, which thus amounts to \$A1.3 million. This is commensurate with such penalties current elsewhere in Australia, and a great deal more adequate than the \$A1000 maximum prescribed in the current legislation.

This 'Tasmanian spring' coincides with the announcement of November 2012 that Tasmania will add 500 million hectares of pristine forests to the permanently protected areas of the island. This includes the locations of several rock art sites and amounts to a significant defeat of the timber industry, whose annual allocation of native forest timber has been correspondingly reduced by almost 60%, and the revocation of a planned massive pulp mill on the north coast. Just as the economic grip on the island by the hydropower interests was thwarted over three decades ago, the control exercised by the timber industry is coming to an end now.

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Melbourne

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RAR 30-1081

International Conference on Rock Art, New Delhi 2012

The Indira Ghandi National Centre for the Arts (IGNCA) in New Delhi has long been closely involved with the presentation and promotion of not only Indian rock art, but also world rock art, primarily through the influence of such leading scholars as Dr Kalyan K. Chakravarty, Dr Baidyanath Saraswati and, most especially, the dynamic Dr Kapila Vatsyayan. This international rock art conference was the brainchild of its organiser, Dr B. L. Malla, and the result of more than a year's work by him, ably assisted by an impressive team of technicians, cameramen, translators (for tribal languages) and other ancillary staff. It coincided with the opening of a rock art exhibition and an impressive exhibition of Indian rock art books. The latter, in particular, reminded international participants of the great contribution India has made to the world literature on rock art, seemingly eclipsing most other countries in at least that respect.

Held from 6 to 13 December 2012, the event began with an inaugural function on the evening of 6 December, presided over by the Vice President of India, The Hon. M. Hamid Ansari. After a welcoming speech by the President of the IGNCA Trust, Chinmaya R. Gharekhan, and a lively introduction by Dr Vatsyayan to the experiences of the IGNCA with rock art, one of the pioneers of Indian rock art studies, Dr Yashodhar Mathpal, was honoured by the Vice President. This was followed by a very brief presentation about the great heritage of world rock art, by the Convener of the International Federation of Rock Art Organisations (IFRAO), Robert G. Bednarik. Several new rock art books by the IGNCA were then launched by Hon. M. Hamid Ansari, followed by his own address concerning the significance of rock art. Not only would this have provided a valuable lesson to the senior politicians of other rock art-rich countries, it was to have been preceded by a speech by the Indian Minister of Culture, The Hon. Chandresh Kumari Katoch, who was prevented from attending in the last minute due to unforeseen parliamentary duties. This degree of government concern at the highest level is a fair indication of the significance the Indian government accords rock art, rivalling that which has been long established in France. For comparison, in the rock art richest country, Australia, governmental attitudes, especially at state level, have been marred by ineptitude, costing the country dozens of billions of dollars in industrial development in the last decade

alone, brought about by unnecessary disputes over rock art protection (especially at Dampier).

The conference was attended by only eighteen international participants, but many of them were the official representatives of member organisations of IFRAO. Besides R. G. Bednarik, who also represents Australia, there were the IFRAO Representatives of Indonesia (Dr Pindi Setiawan), China (Professor Zhang Yasha), Peru (Dr Gori Tumi Echvarría López) and Cuba (Dr Racso Fernández Ortega), while Dr Anne C. Solomon, the South African Representative contributed a polished overview of African rock art in absentia, and Professor Roy Querejazu Lewis, who represents Bolivia, did the same for South America. With a total of twenty-two papers given by Indian scholars, the visitors were clearly outnumbered, and debate was also decidedly dominated by the Indian participants. In addition to the daily proceedings there was also a series of invited evening lectures, each covering a continent's rock art: Professor Lawrence Loendorf presented a highly informative talk on North America, Professor V. H. Sonawane handled the difficult topic of Asian rock art well, R. G. Bednarik did Australia, and Professor Emmanuel Anati presented Europe's rock art.

Discussions and debates were lively (particularly those of specific Indian issues) and, on the whole, appeared to be quite productive. They also showed that there remain considerable inequities between those scholars that work in relative isolation and follow traditional models, and those whose work is more integrated into the worldwide network of rock art researchers. This was starkly evident especially in a few of the presentations, such as those by Professors Jane Blame and Sue O'Connor from Australia and G. T. Echevarría L. from Peru, which contrasted sharply with the purely interpretative hypotheses. Therefore this conference showed that rock art research is progressing, albeit not as effectively as it might, and that old habits are hard to break. Nevertheless, there is now complete agreement on one issue that has in the past been a great concern, including in India: the need to conduct all rock art studies without impacting on the rock art in any way, and also the need for vigilance in rock art destruction by development and other factors.

Overall, this international event was exceptionally well organised and executed, and was a credit to the planning ability and prudence of its architect, Dr Malla. Dipali Khanna, Member Secretary of IGNCA, is also thanked for her support and guidance for making this event a great success. It has added to the achievements of the IGNCA in the sphere of rock art promotion, which were already considerable, and it is self-evident that this creates the conditions under which rock art protection is most likely to flourish.

Robert G. Bednarik

RAR 30-1082

3D rock art PDF

The first 3D PDF file of rock art is the recent RAR paper 'The deteriorating preservation of the Altai rock art: assessing three-dimensional image-based modelling in rock art research and management' by Gertjan Plets, Geert Verhoeven, Dimitry Cheremisin, Ruth Plets, Jean Bourgeois, Birger Stichelbaut, Wouter Gheyle and Jeroen De Reu (RAR 29: 139–156). It is now available at

http://users.ugent.be/~gplets/www/29-2_Altai.pdf

The file of 52.3 MB takes some time to download, but this enables the manipulation of the 3D images in the published paper — the first time that this has been possible in rock art recording.

Proceedings of the IFRAO Congress 2010, Tarascon, France

This volume of the proceedings of the memorable IFRAO Congress in the Ariège of France has been published and is now available:

Prehistoire, art et sociétés: l'art pléistocène dans le monde Actes du Congrès IFRAO, Tarascon-sur-Ariège, September 2010

The price is 46 euros per copy (book and CD) which includes mailing charge. The orders and payments are to be made out to Société Préhistorique Ariège-Pyrénées, and must be sent to:

Yanik Le Guillou
19 rue Napoléon Peyrat
09300 Lavelanet
France

His e-mail for orders is: yanik.leguillou@wanadoo.fr

Letter to the Editor

Dear Robert,

Thank you, and Ben Gunn and the Archaeology Department of Flinders University, for another stimulating and wide-ranging symposium. The event was extremely well organised, the catering was superb and there were a number of important papers presented. For me Dick Kimber's presentation was a highlight as it was a unique opportunity to hear from one who has established a remarkable relationship with initiated Indigenous leaders.

Lee Scott Virtue and Ju Ju 'Burriwee' Wilson's

paper on the destruction of art sites in the Kimberley by criminally inappropriate burning regimes was a heartbreaking example of how ignorant, yet wilfully intransigent, our state and federal governments are when it comes to matters of Indigenous cultural heritage. Jordan Ralph's paper on contemporary Indigenous graffiti opened up an interesting new area of research and David Welch's 'deer' paper was a pungent dismissal of one of the most ludicrous recent interpretations of rock art. For me though the highlight of the event was your forensic analysis of claims for the Pleistocene origin of various art sites made by Australian researchers. The reaction by the majority of the archaeologists present was an extraordinary moment. Their self-righteous dismay at having some of their 'sacred cows' slaughtered was palpable and made even more grotesque by the fact that most of their ire was caused by your dismissal of the recent *Genyornis* claims. That these claims are laughable and should never have been published made the reaction even more astonishing. Coming from members of AURA this showed how far the scientific study of rock art still has to go to gain a foothold in the wider archaeology community.

The Burra field trips were very enjoyable and it was a pleasure to meet the Copleys.

Tony Convey

RAR 30-1083

Forthcoming events

ARARA-IFRAO Congress 2013: held at Albuquerque, New Mexico, U.S.A., May 2013.

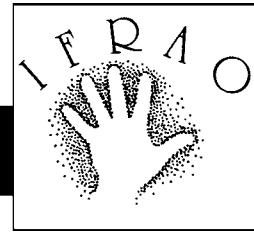
First International Rock Art and Ethnography Conference, to be held in the third week of July 2014 in Cochabamba, Bolivia, organised by the Asociación de Estudios del Arte Rupestre de Cochabamba (AEARC). For preliminary details see RAR 29(1): 136.

IFRAO Congress 2014, to be held in Nanning, China, in November 2014 by the Rock Art Research Association of China (RARAC). Details to be announced shortly.

17th UISPP Congress, Melbourne, Australia, to be held in September 2016 by the International Union of Prehistoric and Protohistoric Sciences, an affiliate of IFRAO.

Fourth AURA Congress, to be held in Australia in 2017. Proposals are invited concerning all principal aspects of the event, such as site, venue and fieldtrip opportunities.

IFRAO Report No. 50



New member of IFRAO

The **Horn Heritage Organisation (HH)**, based in Somaliland, has applied for affiliation with IFRAO in late 2011. Operating in the Horn of Africa, the HH is a non-governmental, non-profit local heritage organisation working for the protection of cultural heritage, including over seventy rock art sites in Somaliland. It wishes to participate internationally in the research, protection and preservation of rock art and the sharing of information and collaboration between institutions and in scholarship. The Board of Directors of this charity comprises Dr Sada Mire (Chairperson), Ugaso Kahin Bulhan (Vice Chairperson), Maxamuud Sulub Hirsi (Treasurer), Abdilahi Hussein Iimaan (Member) and Cumar Jaamac Xaaji Cilmi (Member). Horn Heritage has been established to promote the heritage of the Horn of Africa in general and that of the Somali region in particular. Very little effort has been applied to preservation of Somali cultural heritage and archaeological remains in the last century or so. The limited efforts made to preserve Somali cultural heritage in the last five decades have ultimately failed. This is evident from the ways that Somali cultural heritage and archaeological research has been pursued in colonial and postcolonial times, prior to the commencement of the civil war.

A ballot of the members of IFRAO has admitted HH to the federation in late 2012. The web site of HH can be found at <http://www.somaliheritage.org/hornheritage.php>. The IFRAO Representative of HH is Dr Sada Mire, Executive Director, Horn Heritage Organisation, Edna Adan Hospital Road, Ahmed Dhagah Area, Hargeysa, Somaliland. E-mail: hornheritage@gmail.com

2014 congress in China

Another ballot of the members of IFRAO has determined that the 2014 rock art congress in China will be a nominated IFRAO Congress. This event is to be held in Nanning, southern China, in November 2014. Details will be made available shortly. The event will be conducted by the Rock Art Research Association of China (RARAC), one of the founding members of IFRAO, and will be chaired by Professor Zhang Yasha, President of RARAC.

The International Conference on Rock Art 2012, New Delhi, India: moving forward to a new vision of rock art

During 6 to 12 December 2012, the Indira Gandhi National Centre for the Arts (IGNCA), under the Ministry of Culture, Government of India, conducted the International Symposium of Rock Art called 'Understanding rock art in context'. The event took place in the institutional locations of the IGNCA and covered a series of activities that included five days of lectures (dealing with topics such as concept and methodology; forms, content and concept; interpretation; and documentation and conservation), seven special readings of continental scope, two world exhibitions of rock art, ethnographic pictorial art demonstrations and other related activities, which ended with a field trip to an archaeological site with pictograms at Bundi, Rajasthan.

The conference was opened by the Vice-President of India, Mohammad Hamid Ansari, who highlighted the cultural and institutional importance of such an event, presenting the current position of the Indian government, institutionally represented by the IGNCA, towards rock art studies. The realisation of the conference and the presence of world researchers, therefore, was a way of support, in an atmosphere of international consensus, for a more comprehensive vision of India towards this material; a vision that apparently does not depend on the state of Indian rock art studies.

This fact is in itself a major advance in the consideration of an object of much social significance, and can serve as an example for other countries where the appreciation of rock art is null or mediocre. The value of a cultural object should not depend on our level of knowledge of the same object, but is in the realisation of its historical importance. The *status quo* of rock art research in countries such as Peru, where it only just commences in a scientific manner, really shows how far we are in the understanding of our own past, and in the apprehension of this process.

In view of the above I want to comment on two aspects that I believe are still crucial for distinguishing part of the changes that can affect, globally, the quality of rock art research in the coming years. The first is the continuing survival of ethnocentrism, and the next,



Some of the delegates of the International Conference on Rock Art 2012 in NewDelhi.

in part derived from the first, is the continuity of the interpretive priority in these studies.

Formally I consider that ethnocentrism is clearly the worst ideological stance to take in any humanist or scientific study. It involves the conditional valuation of any object or behaviour according to particular social standards that are deemed hierarchically positive by whoever holds them. This generates an asymmetric negative impression against those objects or behaviours that do not correspond with this parameter. The ethnocentric premise implies, therefore, a reduced conception (psychologically uniform) of all human activities to similar behavioural ideological patterns. This consideration, from the top down, causes us to believe that we can understand any evidence of human behaviour (such as rock art), regardless of the knowledge about the temporary, social or behavioural contexts that generated such behaviour.

Although we may think that our perception is not subject to ethnocentric parameters, generally it is to the point that we cannot rationally abstract our vision of the world from the world vision of others; and given that it is an act whose ideology is socially determined, one is not always aware how much influence this cognitive action exerts when trying to understand a social world to which one does not belong. Ethnocentric bias can, therefore, be more than an ideological lock: a source for a negative attitude, or the origin of a negligent distinction, especially when underlying differences derived from different levels of social organisation (for example nomadic chiefdoms from sedentary state-society) are implied.

In rock art research the ethnocentrism is manifested in diverse ways, as for example the disrespect to the intellectual capacity of the native or local researchers in respect of their own archaeological or historical materials, especially by denying them intellectual validity. This obviously derives from the false conception that a particular specific education is the only one able to answer the challenges of research into the human past.

Another ethnocentric perspective, as I have already

mentioned, considers that it is possible to understand or value the rock art simply on the basis of an individual self-perception. This posture is pretentious, in that it considers mankind from one's own conception of humanity; which clearly cannot be the same for all humans. Ethnocentrism not only judges the significance of rock art, but especially the value of rock art in self-centred considerations – for example through aesthetics.

In the sessions of the IGNCA symposium I had the opportunity of witnessing this ethnocentric behaviour when, concerning the question for the need to preserve the rock art of the world, one of the attendees said he would only preserve this evidence because he regards it as 'beautiful'. This revelation (very disturbing for me) made me see that we are not yet free from judging the graphic expressions of the peoples of the world with particular culturally conditioned visions, in this case with the eyes of the European renaissance aesthetics.

I should mention, to clarify my position, that the ethnocentric parameters of European aesthetics, culturally conditioned by religious dogma, almost destroyed all the Peruvian native cultural expression because it looked ugly, horrible and pagan. The chroniclers of the Peruvian conquest, but especially the *extirpadores de idolatrias* (idolatriy killers) such as the infamous Francisco de Ávila or Pablo José de Arriaga, have left, with almost luxurious details, reliable testimonies of how they destroyed the temples of our gods and goddesses, such as Pachacamac, Wiracocha, Wallallo, Pariaqaqa, Chaupi Ñamca, among others, including their relics and the unique works of native 'art' that accompanied them, using European aesthetic arguments. The surviving Peruvian art was buried, hidden, or had to be exceptionally appealing to Spanish aesthetic perception.

It is important to ponder from this that, regardless of our personal aesthetic insight, susceptibility or sensitivity, we cannot, under any circumstances present our sensations as official arguments to justify the need or otherwise to save a cultural patrimony of humanity. If this is not a serious ethnocentric prejudice, what is?

But that is not all; beyond pure ethnocentric aesthetics, the renaissance concept of 'art' is so all-pervasive in our subconscious that its use has involved, for hundreds of years, so many false premises that we could feel overwhelmed to see how we have conditioned or falsified the vision of our native graphic expressions. It is worth mentioning, for example, the false premise of the contemporaneity of the motifs on a single support, the false premise of graphical integrity (complete survival of evidence) or the false premise of interpretive priority; and also the derivative problems of iconocentrism, the classification by merit (technical or formal qualities), or the culturalist typologies. None of them are directly applicable, for example, to the indigenous graphic expression of Peruvian rock art.

This perspective can probably explain in part the Indian attitude towards rock art where there is, apparently, a domain for the formal or ethnographic interpretative approach, that obviously comes with false premises and a dependency on a formalist classification and typology, which in most cases relegate from the analysis everything that cannot be quickly 'interpreted', based on their formal similarity with some existing object. This is one of the reasons why we usually observe graphics with motifs of 'recognisable' objects or 'associations' of these motifs, which facilitate the interpretative function. The lack of an argument about the time and the synchronism, beyond the spatial association (which is not an argument but a fact), indicates that the contemporaneity was assumed as an intrinsic condition — the fundamental premise — of rock art in many expositions.

Nevertheless, the New Delhi conference has also shown that the interpretative perspective is being strongly challenged by the chronological approach, which I think is of capital importance in modern rock art research; especially in countries like Peru where the belief in the 'impossibility' of dating these remains had facilitated a prevailing interpretative premise for more than one hundred years. We are confident that to pursue chronology, using scientific resources and logical arguments, will affect the interpretative orientation,

relegating it completely. First, because it will necessarily mean the annulment of all the premises that control rock art perception, as the contemporaneity of the motifs, or the validity of the 'association' in the justification of these premises. And second, because this approach will put in evidence that most of the interpretations of rock art have been made following ethnocentric ideas of the world.

I must admit that what I am saying is not just a critical opinion about some aspects of the New Delhi conference, but also a self-reflection. The modern mythology of Peruvian rock art has been so conditioned by Eurocentric precepts since the sixteenth century that I could not have the arrogance to say that I think or see the world as my ancestors did. As a survivor of the destruction caused by Spain in Peru I have to rebuild with patience the original vision of the world in which my civilisation was formed; we have many surviving elements for that, but above all the ideological force of our thousands-years-old history, our gods and our ancestors.

The New Delhi International Conference on Rock Art has been a remarkable opportunity to glimpse some problems of rock art and the vision of the changes in its future research, but has also been the opportunity to clearly perceive that it is possible to embrace a pan-human stand, which holds the need to preserve the valuable testimony of humanity's conception of the world, which depends not on our current knowledge of this evidence; with respect for all societies and native peoples, and without any prejudice or disregard. And India can be a brilliant example of this.

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RAR 30-1084