BRIEF REPORTS

Late Horizon rock art in the Atacama Desert? A view from the Inka road

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When the Spaniards arrived in the Andes in the 16th century, the Inka Empire's territory, or *Tawantinsuyu,* covered more than 5000 km, from southern Colombia to central Chile. The Inkas increased mining, agriculture, livestock production and craftwork activities in the occupied regions; raised administrative centres to govern the provinces, built forts to improve safety as well as garrisons for the troops; and constructed the *Qhapaqñan* — about 40 000 km of roads, around 6000 *tampus,* or road-side settlements, and an unknown number of stone piles or guide markers (Hyslop 1984). Despite the many archaeological remains left from more than a century of expansion, it is odd that until now no rock art site has been found in the entire empire that can be convincingly attributed to the Inkas (see Hernández Llosas 1991: 61, 1992: 34; Podestá 1986–87: 257). Small animals or simple geometric patterns sculpted on stone walls have been reported in Inka settlements, but these are rare and could have been done on top of Inka masonry during early colonial times (Hyslop 1990: 11).

This problem is discussed here with data from the Region of Antofagasta, northern Chile, (c. 20°56' – 26°05' S, between 67°00' W and the Pacific Ocean). This region is in the heart of the Atacama Desert, one of the most arid places in the world (Fig. 1). Life is concentrated around the Atacama salt flat and the Loa river, where there are resources that attracted the ancient inhabitants of the region to hunt and gather (11 000 – 5500 years BP), later also for the foraging of llamas (5500 – 3500 BP) and shortly thereafter for agriculture and village life

Figure 1. *Central-southern Andean area with the Region of Antofagasta, northern Chile, and the main places cited in the article.*

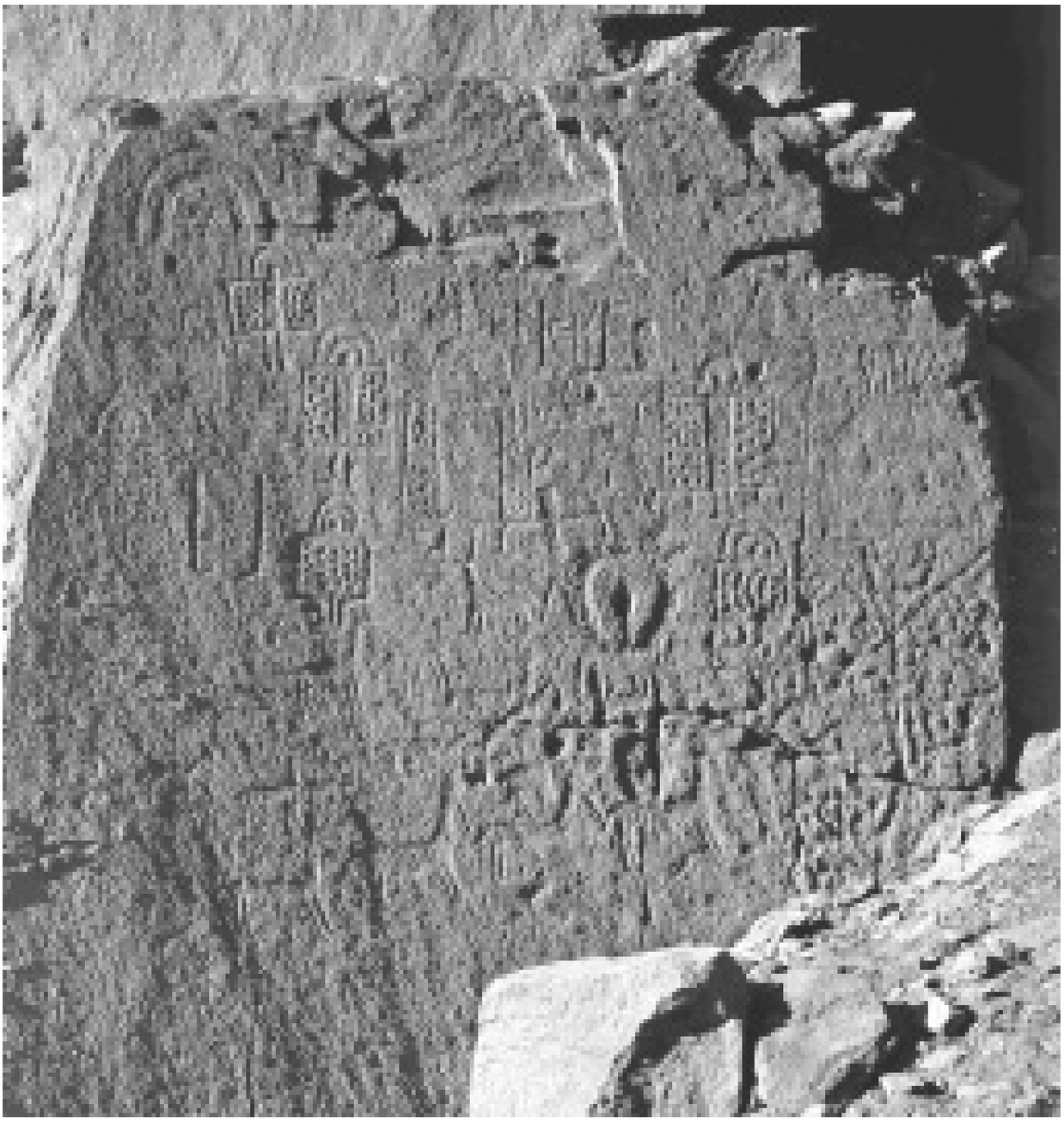

Figure 2. *Camelids engraved in a rockshelter, Santa Barbara 110 site, Alto Loa valley.*

(4000 – 1500 BP). During the Middle Horizon (A.D. 500 – 950), the region fell within the sphere of interaction of the Tiwanaku State and during the Late Horizon (A.D. 1400/1450 – 1532) it was annexed by the Inka Empire. From one period to the next (A.D. 950 – 1400/1450), Atacama society achieved the peak of its pre-Hispanic cultural development, which featured large villages, forts on hilltops, vast exchange networks and heavy caravan traffic between the Pacific Ocean, the Andes Cordillera and the eastern, trans-Andean jungles.

Although there is some agreement on the relative chronological position of a dozen rock art styles throughout almost 5000 years of cultural history in the region (Berenguer 2005), a debate has arisen about the origin and affiliation of two of the later styles in the sequence: Santa Bárbara and Quebrada Seca. These styles include small images of camelids (~15 – 20 cm high) engraved and, less frequently, painted in a schematic way, that is to say, with a great economy of lines and formal synthesis, lacking dynamism (Fig. 2). They appear either isolated in the panels, in pairs, scattered around or in rows of three or more animals joined by a line, sometimes with a 'bundle' on the back and preceded by a human figure. These rectilinear camelids are part of a very widespread practice in the central-southern Andes of depicting llamas (*Lama glama)* and sometimes pack llamas (Berenguer 2004). The sites are often near settlements, but also along herding paths or at isolated road stops, or *paskanas* where the llama leaders and their droves used to spend the nights during their trade expeditions. This rock art has been interpreted as ceremonial expressions made by

Figure 3. *Human and camelids figures engraved in a boulder, Santa Barbara 144 site, Alto Loa valley.*

ancient caravan drovers (Núñez 1985; Yacobaccio 1979). In a few cases, the images are associated with human figures wearing 'feathered helmets', 'tunics', 'leather cuirasses', 'knives', 'axes' or 'jaguar skins' (Fig. 3).

Some authors attribute this rock imagery to immediate pre-Inka times, or Late Intermediate Period (Aschero 1979; Berenguer 2004; Núñez 1985; Yacobaccio 1979), some of them explicitly trace their more remote origins to central-southern Andean herdsmen and caravan leaders who survived the break-up of the Tiwanaku sphere of influence (Berenguer 2005). Other authors state, however, that they are emblematic of the Inka or that they only appear in the Antofagasta Region contemporaneously with the Inka (Gallardo et al. 1999; Gallardo and Vilches 1995; Uribe and Carrasco 1999; Varela 1999; Vilches and Uribe 1999). Some of these scholars even report this rock imagery near a branch of the Inka road that passes through the Salado River valley, associating it with the Inka presence in the region and its highway system (Varela 1999: 95).

Recent studies of the Inka road can help, if not to resolve, at least to clear up some of this problem's grey areas. The late J. Hyslop (1984: 339; see also Nielsen 1997), for example, notes that the imperial roads with the best chance of providing large amounts of Inka archaeological information are, generally, the main arteries in barren isolated areas. Archaeological preservation is excellent in these places and Inka components are more obvious, since there are very few local cultural influences. In fact, the best Inka architectural and ceramic finds in the Antofagasta Region have occurred in the so-called 'Despoblado de Atacama' (Hyslop 1984; Niemeyer and Rivera 1983), which is an uninhabited area and, therefore, has less intercultural complications than densely occupied zones, like the upper valley of the Salado river or the San Pedro de Atacama area. Our reasoning is that, if in fact there was Inka rock art, these 'internodes' areas or 'empty spaces', through which the Inka road passes, would be ideal for producing such evidence.

One of these internodes areas is the Alto Loa valley, the upper course of the Loa river. In a full-coverage, pedestrian survey of roads that we carried out in 2001 and 2002 (Fondecyt Project 1010327, 'Arqueología del sistema vial de los Inkas en el Alto Loa, II Región, Chile'), we took special care to examine each place, road stop and settlement located next to the road or along its nearby borders, in search of rock art sites. From Miño in the north (536023 E / 7659621 N / 3932 m asl) to Lasana in the south (537950 E / 7537707 N / 2677 m asl), our survey covered 125.07 lineal km. We registered 194 variably visible Inka road segments (average 4 m wide), 13 natural slopes with some formal elements of construction, 63 road markers and 36 settlements, 10 of which are Inka affiliated (Berenguer et al. 2005). Although local and local-Inka ceramic types show the highest frequency, between nine and twelve percent of the ceramics collected along the artery is Inka Cuzco Polychrome pottery — a high percentage for the region's standards. Interestingly, we noticed a total absence of rock art, even though the road passes through many rocky zones, several of them with optimum conditions for painting or carving images

This result agrees with other information that is known about the Inka highway system in the Andes. Hyslop (1984) reports only two sites with rock art on twelve stretches of road similar in length to the Alto Loa, that he documented from Ecuador to Chile: one petroglyph in the Ingañán *apacheta,* in Argentina and another between Sites HN and JI next to the Inka road in the 'Despoblado de Atacama', in Chile (see Niemeyer and Rivera 1983: 134, 137, Fig. 5). Neither of these two petroglyphs is similar to the rock art discussed in this report. Furthermore, the *apachetas* are ceremonial mounds that apparently belong to a period following the Late Horizon (A. Nielsen, pers. comm. 2004) and the 'Despoblado' petroglyph could be earlier or later than the Inkas, since previously existing paths were added to the road network and this one continued to be partially used after the *Tawantinsuyu* (Berenguer et al. 2005; Hyslop 1984: 270 and ff.; Niemeyer and Rivera 1983: 155). On another stretch

more recently explored by Hyslop et al. (1992) between Yanahuanca and Huanuco Pampa, Peru, no rock art site was reported. Some doubt could arise about whether or not Hyslop was consistent in his concern about recording rock art in his monumental survey of the imperial road system. Nevertheless, a reading of his monograph shows clearly that he thoroughly recorded all traces of features next to the road and that he was particularly interested in the rock art sites, so it is unlikely that he missed any (see Hyslop 1984: 162, 180, 271).

At least from the perspective of the road we explored in the Alto Loa valley and of another thirteen stretches studied by Hyslop (1984; Hyslop et al. 1992), in different parts of the Andes, the petroglyphs and paintings on rock do not appear to have been a component of the Inka road system. Consequently, the current controversy about the presence of Inka rock art in the region should exclude the *Qhapaqñan* from the discussion. For the rest, the frequency of sites with figures of rectilinear camelids in the Antofagasta Region and adjacent regions far exceeds that of the area crossed by the Inka roads, suggesting that this rock art iconography is independent in origin from the *Tawantinsuyu* road system. Furthermore, in no part of its extensive empire did the Inkas apparently draw human figures like those that sometimes appear in the rock art that we have discussed, and therefore there is no reason why they would have done it only in the Antofagasta Region.

Probably rock art will be found in the future at some point on the Inka highway or in some Inka road-associated site. Nevertheless, unless unmixed cultural evidence is found that proves otherwise, this rock art should be interpreted as pre-Inka or, at the most, as rock art that originated prior to the Inkas and that remained in use in this region during the *Tawantinsuyu*. The extension of local ceramic types belonging to the Late Intermediate Period until the Late Horizon, in many parts of the central-southern Andes, provides a good model for this last possibility.

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RAR 22-711

Study of a Palaeolithic time capsule: the Chauvet Cave project

By ROBERT G. BEDNARIK

As a member of the Advisory Committee on the study of Chauvet Cave, the 'Third Circle' of the research team of this outstanding site, the former project leader, Dr Jean Clottes, has invited me to witness the fieldwork methodology of his team first hand. For three days in October 2004 I had the privilege of working with a team that can fairly be described as the best in the world currently engaged in the study of a rock art site. Because there is to date no project of a comparable level of care, competence and sophistication, anywhere in the world, it may be useful if I report my experiences. It would in my view be of value to the site managers and rock art researchers of the world to hear more about the techniques and approaches of what is undeniably the foremost project in the discipline. We all know about the outstanding cave art of the site, especially through the sumptuous volume edited by Clottes (2001), but we know much less about the advanced methodology of the research project (Valladas et al. 2004), and very little about the management and protection of the site. My purpose here is to focus specifically on how the project operates and how the cave's contents are being protected.

Methods and approach

One of the most noteworthy aspects of the Chauvet project is that its fieldwork is conducted from a fully equipped base camp close to the site. The Base Départemen-tale de Loisirs east of the village of Salavas is only a few kilometres from the cave. It includes not only extensive quarters for the researchers, but also a cafeteria (with superb chef!), a very substantial workshop, and an office block containing state-of-the-art computer and other equipment. Not only does this arrangement facilitate extensive contact between the project's researchers from many different disciplines — especially during the communal morning and evening meals — the data collected at the site during the day can be downloaded in the evenings or during periods of inclement weather. The significance of this is that queries arising from the daily digital processing of data, especially in recording details that could not possibly have been discerned on site, can be perused the following day, rather than many weeks or months later. This occurs frequently, because most rock art panels cannot be accessed, they are photographed from several metres distance, even from many metres away. Therefore in most circumstances, the photographic record reviewed back at the base is vastly superior to visual inspection, in resolution alone. Details that because of the severe access restrictions are currently not visible to the human eye become apparent in the recordings, and often need to be followed up by more comprehensive photography with telephoto lenses. Moreover, the processing of digitised records, through the use of colour enhancement techniques, often leads to the detection of even less readily discernible features. Thus the feedback from the computer-assisted work routinely generates new tasks for the following day's fieldwork. This, needless to say, is a highly efficient system, resulting in a sophistication of records that is, to the best of my knowledge, not currently matched by any other project globally. In a sense the type of work this system renders possible is the digital development of the 'internal analysis' pioneered by A. Marshack. However, rather than using microscopy to analyse and understand minute details of the palaeoart, very high resolution imagery, combined with enhancement, stitching and colour management is the basis of the Chauvet recordings presently being developed by key researchers such as Drs Carole Fritz and Gilles Tosello.

Thus the close feedback loop that exists between field observations and the results of ongoing processing of digital imagery in the site office at the base camp is a major asset of the Chauvet project. Another notable feature is the close interdisciplinary collaboration between the various researchers, reinforced by daily discussion sessions. Researchers work as part of a collaborative interdisciplinary effort, not professionally isolated. A culture of frequent mutual consultation has developed among archaeologists, rock art specialists, geologists, palaeontologists, sedimentologists and documentation specialists. This is a most congenial environment for scientific work of this complexity and it is underscored by an established culture of tension-free collaboration. The last-mentioned is often difficult to achieve in such quests, with so many outstanding scholars working on the same project, and it is my impression that this congenial context is attributable to the outstanding continuing leadership and personal standing of the project's former leader, Dr Jean Clottes, and its director, Dr Jean-Michel Geneste. After all, the Chauvet project has seventy-three collaborators, all of whom are high performers and outstanding scientists. They are grouped into essentially three categories: the main body of permanent researchers, visiting specialists, and a scientific advisory committee. Again, this appears to be a very productive system: the first 'circle' does the bulk of the ongoing research, the second provides specialist input where it is required, and the third is able to offer critiques and recommendations to prevent 'academic inbreeding'.

Site management

There is, however, a second underlying factor that renders the Chauvet project so outstanding. It stems from the fact that an unusual set of circumstances has led to optimal preservation conditions, both for the rock art and for the various floor markings and other features. These conditions are superior to those in any other cave art site in Europe. The collapse of the main entrance, probably about 24 000 years ago, has sealed its interior like a time capsule, and preservation of all physical evidence has been greatly favoured by a very stable speleo-atmosphere. In combination with the prompt action to close the cave soon after its discovery, and the subsequent severe access restrictions, these factors have resulted in an impeccable state of preservation. Just the ichnological data alone that are available from this one

site eclipse in both quality and quantity the sum total from all known cave art sites in Europe. Much the same applies to various other contents of the site. In recognising this, as well as the outstanding value of the site's cave art, the French authorities have contributed substantially to preserving, as closely as possible, pre-1994 conditions in the cave. Soon after its discovery, the cave was closed to all except members of the research team. This condition remains in place, and hopefully will continue in perpetuity. French cave art conservators have learnt many lessons from the damage to sites subjected to heavy human visitation — Lascaux being perhaps the best-known example.

The visitation of cave sites always has disastrous effects on the floors. Apart from being trampled, sediments have often been roughly excavated, simply to provide access to tourists (a practice still continuing in many European caves, such as Mladeč Cave). An immense amount of scientific data has been destroyed in this way. The Chauvet floor features are just as important as is its art, in a scientific sense, and they are equally well preserved. It was decided in 1995 to ban all walking on sediment floors, and the Ministry of Culture has made available substantial funds to finance protective installations that are without equal. After a careful study to establish the effects of enlarging the narrow entrance passage (using a model), a specially designed system of walkways was installed at massive cost. This extends about 250 or 300 m and also carries the electricity (for portable floodlights) and instrumentation wiring. There are a few further short paths laid out with stepping pads or plastic sheeting, but these are only used rarely. In exceptional circumstances individual researchers will walk carefully and with bare feet on sound flowstone sheets or, near the former and now collapsed entrance area, on larger rocks. However, this is only resorted to for special reasons. Walking on any sediment is totally excluded, and consequently most of the floor sections have never been entered. Therefore many of the images or panels have also never been seen close up. Instead they have been studied through binoculars and through images acquired with telescopic lenses, or with cameras attached to poles to reach around obstructions.

The entrance is sealed by a substantial strongroom door and monitored by several closed-circuit TV cameras. Inside the inner airlock gate is a 10-m ladder descent equipped with a safety rig. All metal within the cave is non-corroding titanium alloy or stainless steel. Equipment is stored in another, nearby cave, which is also locked and monitored by cameras. This storage cave contains the mains electricity distribution board and cooking facilities, and it is occupied by the appointed cave wardens. The special overalls used by all researchers, their safety harnesses, helmets, lights, batteries and battery chargers are never used anywhere else. To avoid the introduction of external sediment, fungi and micro-organisms, the small rubber shoes (similar to maritime deck boots) worn by all who enter Chauvet Cave are stored within its airlock, and never leave the cave. Thus working conditions approach those in space exploration, in terms of sterility. All visitors must record the number of hours they spend in the cave, and where they worked. The researchers spend only about four weeks per year in the cave, in two campaigns, and at no time is their number in the cave allowed to exceed a set maximum limit. This was imposed because of an increase in atmospheric carbon dioxide, and by the possible rise in ambient air temperature and relative air humidity. These and other variables (e.g. rock temperature) are constantly monitored: the CO_2 level reached 3.23% during my visit of three days, but then fell off to 3.17%. Photography is generally not permitted, except as directed, and only crucial research equipment is taken into the cave.

With the exception of the places where the discoverers of the cave walked in 1994 (Chauvet et al. 1995), the placement of the walkways (resting on epoxy-resin pads) and the single one-square metre test excavation currently being undertaken (which is still shallow, about 20 cm deep, and has yielded a stone artefact), the ground has therefore remained entirely undisturbed throughout the huge cave. This indicates the extraordinary care taken in preserving perhaps 99% of the cave floor of around 20,000 square metres entirely untouched. It bears literally thousands of tracks, mostly of cave bears and humans, but also of other species. There are countless scratch marks of bears, complementing those on the walls. A small number of flint implements has been found on the surface, and there are several hearths and some stone arrangements that look so fresh they could be yesteryear's.

Personal preoccupations

I am reluctant to comment about the art in the cave, because I feel that anything I could say about its sophistication would only sound trite or banal. Therefore, I simply say that the rock art is breathtaking, sublime and powerful beyond words, and that in contrast to apparently most people I find it remote and inscrutable beyond my simple comprehension. Occasionally I seemed to detect little glimpses of the humanity of its makers, for instance when they over-emphasised the diagnostic characteristics of a cave bear (e.g. the steep forehead) as if to say, this is not a brown bear, it's a cave bear. But most of the time I find the reality of these (very tall) patricians of artists so distant from my own modest construct of reality that they might have been out of this world. (Interestingly these people were often around two metres tall.) Moreover, after witnessing the care taken in documentation procedures it would be foolhardy of me to comment on the interpretation of the rock art and its details; better scholars than I have been at work here for years.

In viewing the physical evidence in Chauvet Cave, I had a special interest in the role of the cave bears (Philippe and Fosse 2003). The site was obviously a hibernation lair for them, and there is evidence of interaction between that species and the Aurignacian visitors. Having conducted extensive research into the behaviour of cave bears in such caves, in about fifty sites in Europe, I had studied such evidence as cave bear claw marks and *Bärenschliffe* (wall polishes) since the early 1960s (Bednarik 1993). To my mind, one of the most important aspects of Chauvet Cave concerns the question, to what extent have humans been

involved in the placement of cave bear remains. It is hard to dispute that at least some remains were intentionally placed, and I do include in this the two arrangements of cave bear skulls with vertically placed humeri in the southernmost end of Bauges Chamber. Arrangements of deposited cave bear skulls have been found in numerous sites, mostly in central Europe. All of them date from the earliest Aurignacian, and from similar industries of the interface between the Middle and Upper Palaeolithic. Therefore, if the same kind of behaviour were demonstrated in Chauvet, it would secure solid dating to a period close to the Campanian ignimbrite eruption. In view of the distortion that presumably affects all radiocarbon dates of that period from southern Europe, it is perfectly possibly that the charcoal dates for the older art phase in Chauvet are too low rather than too high, as some have suggested. Nevertheless, evidence of cultural behaviour involving the placement of cave bear remains would securely place any related rock art into the early part of the Aurignacian.

A recommendation

Forty-two years of working with cave markings have taught me to appreciate the dangers of their exposure to carbon dioxide. I regard this, in the presence of adequate moisture, as the perhaps most serious threat to rock art in limestone caves. It is self-evident that the lowest part of Chauvet Cave, the End Chamber of the Megaceros Passage, just beyond the cave lion panels, is a CO_2 sink. In general caving practice, any CO_2 content above 1% is regarded as 'foul air', yet in parts of Chauvet Cave it rises to above 3%, at least on occasion. Researchers reported feeling the distinct effects of the high content of carbon dioxide when they ventured into the descending part of the passage. The almost complete lack of atmospheric flow within the cave that has preserved its splendour so outstandingly also maintains the air composition. The pattern of carbonate deposition on the floors, from occasionally (after heavy rainfall) occurring flooding of floors by super-saturated solution that forms the extensive intricate rim pool systems, ensures that the floors are well sealed. Consequently, the drainage of CO_2 appears to be very limited indeed. In these circumstances, the formation of pools of the gas, in part derived from human respiration, is unavoidable. I recommend that it is considered to establish, as an early warning system, a monitoring area well below the cave lion panels, that can be microscopically monitored on a regular basis to guard against deterioration of the moister, softer or more porous secondary calcite substrate. Perhaps it could also be considered to install an artificial means of draining this carbon-dioxide pool. A tube could be installed, following the system of walkways as the electric cabling already does, with a very small pump to drain the gas, which can be so harmful to moist calcite surfaces, into the open. The cost of this measure would seem to be minute, but if the excess CO_2 were drained from the cave in this way, it may well make an important contribution to the health of the cave's speleo-environment. The heat dissipated by the bodies of the researchers or their contribution to the relative air humidity are probably of negligible effects, they are of much less concern in view of the relatively large convacuation space of the cave system. The issue of the introduction of organic traces has already been taken care of as far as this is possible. It is thus only the carbon-dioxide problem that remains, in my view, a possible source of danger to the cave art as well as to the flowstone decorations.

Acknowledgments

I take this opportunity to thank the pioneer of the Chauvet project, Dr Jean Clottes — the doyen of French rock art research — for inviting me to work with him in the cave and to witness the operation of the project he established. I am also indebted to the French Ministry of Culture, as indeed is the entire discipline of rock art research. Thanks are also due to the many scientists of the outstanding team I have been privileged to meet and work with. This experience has reinforced for me the truism that it is always worthwhile to strive for the highest possible standards when it comes to rock art protection. The Chauvet team has now established a standard that the rest of the world can aspire to, in site documentation as well as in rock art management.

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The author viewing cave bear images in Chauvet Cave. Photograph by Jean Clottes.

RAR REVIEW

Rock art studies in India: a historical perspective, by SOMNATH CHAKRAVERTY. 2003. The Asiatic Society, Kolkata, 64 pages followed by 8 pages of photographs. ISBN 81-7236-137-8.

Readers, I can't say I enjoyed this book or, more precisely, I can't say that this work has had a memorable impact. Instead, I am somewhat puzzled by the absence of discourse in this thin publication — some 70 pages of references to other works, other scholars, and a brief (and I am generous) overview of artefactual remains, chronologies, and sites. This is scholarship in its driest form. I am sure that Somnath Chakraverty has a wealth of fascinating facts to share, but for some reason he must have opted for an economy of personal input and instead has created a rather uninteresting collage of references. I am aware that this should be expected when one dedicates his research to a historical perspective on rock art studies in India (or anywhere else for that matter).

Nonetheless, when one tackles such area as methodology in a historical perspective, one is faced with a fascinating topic that requires more depth than what Chakraverty offers his readers. Then there are a meagre two pages for the distribution of sites and regional characteristics. Again, I am aware of the agenda clearly stated in the title of the book (a historical perspective), but I expected a more developed content. In this section the distribution of sites (which is meagerly expanded upon later on in the text) seems to have been extracted from a 'Michelin' type guide to India. This is not how rock art study is going to earn its '*lettre de noblesse'*. It does not matter where the work originates, what is important is that it must contribute beneficially and elevate the quality of monographs of this sort on a global scale.

On page 51, there is an interesting passage with the following inference: "*Inter-disciplinary approach is perhaps a more appropriate strategy in the field of rock art research. The ultimate aim for studies on rock art is to reconstruct the life and activities of the human groups existed earlier*." (51), but from there on the text dwindles right back along on a highway of generalities. But to go back to the quote, here is a perfect example of an area of investigation that is undoubtedly in the forefront of the new concerns in rock art studies. The inter-disciplinary approach is, rightly so, the future of our discipline; with respect to the reconstruction of cultural behaviour from the past, rock art research has only just begun to investigate into other areas of cognition and this notion is still in its infancy. Again, Chakra-verty's discourse simplifies (not to say trivialises) a fundamental point that could have been developed in depth.

Chakraverty offers a standard approach in establishing a chronology of scholars whom, in one way or another, have all contributed to the mapping and assessment of rock art in India. This, too, was done in a rather haphazard fashion. It is not enough to stick a few tables and some percentages into a textual body. These tables and percentages must be put into context and discussed in a way that is intelligible for the reader. I am looking forward to a time where rock art monographs will have more substance. Until then we must humbly reassess Chakraverty's work and acknowledge that his contribution (even if minor and incomplete) is nonetheless another footstep towards maturity for our discipline, rock art research.

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RAR 22-714

San spirituality. Roots, expression and social consequences by J. D. LEWIS-WILLIAMS and D. G. PIERCE. 2004. AltaMira Press, Walnut Creek, CA, 288 pages. Softcover US$29.95, ISBN 0-7591-0432-8; hardcover US$75.00, ISBN 0-7591-0431-x.

Götterdämmerung is the title given by Lewis-Williams and Pierce to the penultimate chapter of their book. In it they describe the San as uniquely spiritual and ask the question 'Has it turned out to be an advantage in their dealings with other communities, or has it proved to be a burden?' (Lewis-Williams and Pierce 2004: 221). Lewis-Williams has spent several decades researching San spirituality, looking for a lexicon by which to read the rock art of the Southern San of South Africa. He clearly has enormous respect for the San people and their unique form of spirituality, which has as its central focus the trance dance. Lewis-Williams has had a major influence on the way rock art throughout the world is viewed such that the possible role of the 'shaman' is almost inevitably raised when any corpus of work is being studied.

This book brings together many of the threads that have been seen in the work of Lewis-Williams publishing on his own or in collaboration with other writers. The current tapestry woven with these threads stretches from the Middle Stone Age Howieson's Poort Industry of 70 000 years ago to the San rock art image central to the flag of the new post-apartheid Republic of South Africa. Historically tapestries have not only been works of art attesting to much individual industry but have also provided a rich source of historical information, and this tapestry on San spirituality provides a great deal of information and thought-provoking ideas. It is a pity that the authors have tried to trim every thread and reference to fit the Procrustean bed that is Lewis-Williams' paradigm of trance.

They propose that the people of the relatively short-lived Howieson's Poort Industry, characterised by the production of backed blades and burins using silcrete, quartz and chert rather than the more readily available quartzite, chose these materials because of their 'glistening quality' (p. 12) and that this choice was not a matter of aesthetics but was linked to 'something fundamental in the functioning of the human brain' (ibid.). That quartz crystals are universally part of the stock in trade of the shaman, medicine man or clever man of high degree is not at issue, but what is at issue is the author's statement that their importance is derived from the fact that 'shaman's see in them the light they experience

in altered states'. (19). They argue that Taçon's explanation of 'social, symbolic and aesthetic influences` for the use of materials that shimmer and a temporal association of their use with the development of polychrome painting in north-east Arnhem Land is inadequate and the answer lies in 'something more intrinsic to human anatomy and neurology' (15). The authors perhaps did not appreciate the depth of the social and symbolic influences. Taçon lays emphasis on the power invested in the material quartzite by the Ancestral Beings (Taçon 1991). Not only were the rocks created by the Ancestral Beings as they journeyed across the land but they *became* the rocks; they were both the creators and the substance of their own creation. The authors also use a description by Rose of the final ordeals of two young initiates to emphasise their thesis on the role of quartz crystals. Rose, a psychologist experienced in hypnosis who spent several years studying Australian Aboriginal 'magic', described in detail the initiation ritual of which the use of a quartz crystal was only one part (Rose 1957: 94). Rose fully understood that the boys were undergoing hypnotic inductions and the use of a crystal was only a part of that induction. Looking into a crystal causes an individual to focus deeply; an essential component of induction assisted sometimes by the 'clever man' holding his 'clever stone' just above the eye level of his subject, a practice common in hypnotic induction as the fatigue of the eye muscles assists trance induction (Rose 1957: 159).

Lewis-Williams and Pierce rightly point out that the nature of consciousness is a subject of intense interest but I have concerns with the paradigm they propose for a spectrum of consciousness (31). The only reference given for this spectrum is an earlier work by Lewis-Williams and therefore I assume that it is his own invention. The trajectory proposed in the model moves from Alert to Autistic and this is an unfortunate use of the latter word. Gradations in altered states of consciousness certainly exist and it seems that Lewis-Williams' Stage III is subsumed under the rubric 'autistic'. There are features of deep trance which mimic autism, a pervasive developmental disorder which colours every aspect of an autistic person's existence (Bogdashina 2003: 20; Fitzgerald 2004: 12). Bogdashina, quoting Doman, notes that deprivation of stimulation through the senses can lead to autistic-like behaviours. For example the high functioning Temple Grandin writes 'I could sit for hours on the beach watching sand dribbling through my fingers … I was like a scientist studying the grains under a microscope. As I scrutinized their shapes and contours I went into a trance which cut me off from the sights and sounds around me' (Grandin 1995: 44). However, there is an important difference between this trance and that of the shaman or clever man. The latter travels for a purpose and has an agenda. He or she will return with important information, which will be conveyed to those unable to make those journeys. In contrast Wendy Lawson in a foreword to Bogdashina says 'as autistic individuals we may not have the luxury of choosing to shift our attention' (Bogdashina 203: 12). The seers are those who can see that which is invisible to others. They must have the ability not only to reach but also to use Stage III, or deep trance. They are the ones who make journeys across country to reinforce long-term relations (94) and across time to validate information about the Early Ones (175). They know where they are going and they bring back information vital to the survival of individuals and the community. Laughlin, while comparing the sometimes involuntary entry of the shaman into the world of altered states with the breakdowns experienced by neurotic and psychotic people, observes that what is the start of a lifelong battle for the neurotic and a shattered world for the psychotic, is for the shaman the beginning of the construction of a greater world; 'the shaman is a person of strong character who suffers an initiatory sickness and heals himself in the curing of himself' (Laughlin et al. 1990: 270).

In another attempt to trim their threads, Lewis-Williams and Pierce cite a paper by Blanke and colleagues in confirmation that having an out of body experience (OBE) is, to quote Lewis-Williams, 'hardwired into the human brain' (122). There are certain areas of the human brain which serve certain functions, such as facial recognition and direction of movement. The specific areas concerned with such functions have been determined by examination of the brains of people who have lost those functions. There is no such area in the brain that allows all humans to experience autoscopic phenomena. This classification encompasses out of body experiences when a person seems to be awake and to be seeing their body and the world from a location outside the physical body, and autoscopic experiences which are characterised by the experience of seeing one's body in extrapersonal space (Blanke et al. 2003: 244). What Blanke and colleagues showed, using fMRI studies largely on people with epilepsy, was that stimulation of a particular area of the cerebral cortex near the temporo-parietal junction (TPJ) caused some patients to have OBEs. Their conclusion was not that they had found a brain centre for OBEs but that OBEs 'are due to a paroxysmal cerebral dysfunction of the TPJ in a state of partially and briefly impaired consciousness' (ibid.). People in trance are detached from normal sensory inputs including the visual and proprioceptive clues with which we establish our place and space in the world. Individuals in a deep trance are not anchored which gives them the sense of freedom to fly.

The familiar Lewis-Williams entoptic theory is once again enunciated, this time as the intensified trajectory taking subjects from entoptics to the bright light and grid and through the vortex into the world of hallucinations. The problems with this neat theory are evident to anyone working with trance. The major concern, however, is that Lewis-Williams has set up a circular argument from his paradigm in which elements labelled entoptic, such as zig-zags and bright light reflected from a crystal, are taken as evidence of trance. The logic, like that of the schizophrenic, is internally consistent but the original premise is incorrect or at best unsubstantiated.

The question of entoptics, while important, is not central to the story of San spirituality. That place, as the authors rightly observe, is held by the trance dance. The authors have mined the works of the Bleeks and Dorothea Lloyd who recorded the stories and knowledge of their Southern San informants in the early 1900s, and many other writers including Lorna Marshall who lived with the Kalahari San in the 1950s catching images of their life before it was irrevocably changed by white intrusions. Lewis-Williams and Pierce focus on demonstrating that much of the rock art of South Africa depicts aspects of trance and in particular, the trance dance, still enacted in the Kalahari. The authors unpack one of the major San myths concerning the visit of the trickster god and first shaman, Kaggan, to the house of his affines, the Lions (112). They extract metaphors of transition and then look for — and find — the same metaphors in the rock art. Lewis-Williams and Pierce are not content that the myth demonstrates the ambiguity attributed by commentators to San religion (Guenther 1999: 61). Rather, having analysed the role of each player in the story, affirm that 'the metaphors of transition … of "A visit to the Lions' house" and other myths are all associated, one way and another, with shamanic activities' (124). They do accept, however, that 'not all San transformations are the direct result of shamanistic altered states of consciousness' illustrating how belief, cosmology and transcendental experience interweave, with a discussion of the stories about girls at puberty (160).

The authors guide the reader past many examples of rock art demonstrating how the images can be interpreted as metaphors of transition. The importance of eland and its role as rain animal is elaborated, allowing the authors to explore not only the stories

telling how the rain animal was captured and driven across the dry country by the shaman but also to discuss the social and economic ties between the San and their neighbours.

Interpretation of any rock art is fraught with difficulty but when ambiguity is at the heart of the world of the makers, the challenge is even greater and some in the world of rock art would say it should not be attempted.

This book is a rich source of information about the journey of the San from their early roots to their current difficult life situation. Götterdämmerung was certainly in the wings but the authors do not accept the annihilation of San spirituality by the forces of evil. They attest that San spirituality, the core of what it means to be San, lives on not only for the people of South Africa but for all humanity.

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RAR 22-715

Bergkunst: Helleristningar i Noreg by GRO MANDT and TROND LØDØEN. 2005. Det norske samlaget, Oslo, 297 pages. Hardcover, ISBN 85-521-6227-4.

A number of books about pre-Historic rock art in Norway written for a general public have been published during recent years. Most of these books have a regional perspective, which mirrors the division of the country's archaeological heritage care during the 20th century, with five regional museums in charge of their own regions. This book, however, sets out to cover the entire country.

Starting in the northernmost part of Norway, the authors describe region after region, sometimes with special emphasis on particular sites; all chapters being more or less of the same size. The book is a pleasure to read and the many illustrations, which mostly consist of standard photographs, are welcomed, whether they are old or new. Impressive is also the number of photographers represented.

Yet I have some critical remarks, partly because of the way the chapters are organised. The seeming harmony between the chapters covers up an unequal regional treatment of regions and sites. Of course, not all known sites can be presented in a book like this but the selection of sites in this case is difficult to understand. I find the choice of some small and rather insignificant sites in western Norway difficult to understand, particularly since some major rock art regions are dealt with rather cursorily. This lack of regional balance may be due to the recent publishing of some regionally based books (Hygen and Bengtsson 1999; Sognnes 1999; cf. Helskog 1988). Whatever the reason, this lack of regional balance weakens the book, being particularly significant for Østfold in south-eastern Norway, which probably has more petroglyphs than any other province in Norway (Hygen and Bengtsson 1999).

I find it interesting that the authors have chosen to present a site at Aldon, in the province of Finnmark, which normally is not included in discussions of rock art in Norway, probably because it has been considered to be much later than 'real' rock art. I am, however, surprised that this Aldon site is given more space than the large Alta sites in the same province, which are on UNESCO's World Heritage List. Petroglyphs from Medieval and post-Medieval times are found all over Norway but have mostly been neglected. In this perspective we should also ask the impertinent (?) question of whether the entire corpus that so far has been dealt with by archaeologists was actually made during the Stone and Bronze Ages, which are the periods rock art is dated to. We should not forget that many panels have been available for the adding of new images for millennia, for instance, the 'graffiti' from the later centuries.

In a fairly long chapter Norway's little known cave paintings are presented. This chapter gives the readers a good impression of this particular record. This cave art, which has mostly been discovered during the last decades, is dominated by simple anthropomorphs. Open-air paintings are, however, dealt with rather cursorily, represented only by two small photographs. They have not gained the place they deserve.

In spite of my critical remarks; Mandt and Lødøen have produced a beautiful and most welcome book, which provides a far better overview over rock art in Norway than any previously published book on this subject.

Professor Kalle Sognnes
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Number 40 (2004):
RIPOLL, S., F. MUÑOZ, P. PETTITT and P. BAHN: New discoveries of cave art in Church Hole (Creswell Crags, England).
HOLLMANN, J. C. and M. K. HYKKERUD: Khoekhoen herder paintings in the Karoo: exciting new finds from South Africa.
DALMERI, G., A. CUSINATO, M. BASSETTI, K. and M. HROZNY KOMPATSCHER: The Epigravettian mobiliary art of the Dalmeri Rock Shelter (Trento, northern Italy).
PASTOORS, A. and G.-C. WENIGER: The Wendel Collection: a picture archive of Ice Age cave art.

Number 41 (2005):
FERUGLIO, V., A. KHECHOYAN, B. GASPARIAN and C. CHATAIGNIER: The Geghamavan-1 painted shelter, Aragatsotn Province, Republic of Armenia.
KORTUM, R., Z. BATSAIKHAN, EDELKHAN and J. GAMBRELL: Another new petroglyph complex in the Altai Mountains, Bayan Olgii Aimag, Mongolia: Biluut 1, 2 and 3.
BENARD, A.: The surprise presence of an engraving of a warrior attributed to the XIth century in the rock art of Fontainebleau (France).
WASKLEWICZ, T. D. STALEY, H. VOLKER and D. WHITLEY: Terrestrial 3D laser scanning: a new method for recording rock art.
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VENTURA, R. and L. QUIROS: Petroglifos de Menocucho: un Nuevo sitio Rupestre en el valle Moche.
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Lascaux: a work of memory, by JEAN-MICHEL GENESTE, TRISTAN HORDÉ and CHANTAL TANET, translated from the French by David and Nicole Ball, with a preface by Philippe Dagen. 2004. Éditions Fanlac, Périgueux, 141 pages, 39 colour plates, reading list. Softcover, ISBN 2-85677-237-3.

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ORIENTATION

AURA Inter-Congress Symposium Cairns, 31 August to 1 September 2005

The conference 'Oxalate films on rocks and works of art' previously announced has been cancelled by Professor Alan Watchman, but the associated AURA Inter-Congress Symposium 2005 will proceed as announced previously. It will be held on Wednesday, 31 August and Thursday, 1 September 2005, at the Cairns Colonial Club Resort. The event will be followed by fieldtrips to local rock art sites as detailed below.

Cairns is located in Far North Queensland, in close proximity to the Great Barrier Reef, wet tropical rainforests and the magnificent Aboriginal rock art precincts of Laura and Chillagoe as well as other concentrations. At the time of the AURA symposium the weather should be perfect: warm sunny days (26–28ºC), cool evenings (18–20ºC), fresh breezes and low humidity (65%). The Cairns Colonial Club Resort is located within a few minutes of Cairns International Airport and the city centre of Cairns. The venue is superbly suited for the Symposium, which will consist of a single academic session in the Lockhart Room (max. capacity 380 participants), using also the Conference Centre Foyer and the Lockhart Verandah (for buffet refreshments).

Academic sessions

There will now be no prescribed thematic preferences, any subject connected with rock art may be addressed. Presentation titles and abstracts (50 to 100 words long) are invited and should be sent to the Editor for inclusion in the symposium program. Presenters will have the choice of using either a digital projector (preferably PowerPoint presentations) or a traditional slide projector. Whiteboard/blackboard and overhead projector will also be available. All presentations will be followed by questions and debates.

Please send presentation titles and abstracts before 31 July 2005 to:

Robert G. Bednarik
AURA
P.O. Box 216
Caulfield South, VIC 3162
Australia
E-mail: *auraweb@hotmail.com*

Accommodation

AURA has reserved thirty Standard Rooms at the Cairns Colonial Club Resort, at a rate reduced by more than 30%. These units contain one double and one single bed, and the normal rate of $A162.00 has been reduced to $A112.00 for symposium participants. This offer needs to be taken up before 31 July. All accommodation bookings should be by the Accommodation Booking Form. Luxury units are available at the venue (see information sheet), and elsewhere in Cairns there are numerous hotels in all price ranges, as well as backpackers accommodation, motels and bed and breakfast establishments. Cairns is a major international tourist centre with comprehensive facilities.

Fieldtrips

Fieldtrip A: Nugal-warra rock art, near Cooktown, led by Traditional Owner Wilfred Gordon. For details, please see Brochure 1, Brochure 2 and Brochure 3 at *http://mc2.vicnet.net.au/home/congress/web/cairns.html*. The fieldtrips can be arranged before and after the Symposium. Early bookings are advisable. For details and all bookings, please contact Judy Bennett, Tel. No. (07) 4069 6043, mobile 0417 305 490, e-mail: *judbent@bigpond.com*

Fieldtrip B: Chillagoe rock art sites, led by Professor John Campbell from 2 to 4 September. This three-day field trip covers many of the Chillagoe-Mundana sites, including the important Walkunder Arch Cave, where John and Alan Watchman conducted pioneering research. Transport will be by rental cars or minibus, available accommodation ranges from two hotels, motel units, cabins to camping in caravan park. Costs will be those of shared transport, accommodation and any shared fees for traditional site custodians. Participants need to book return flights from Cairns on 5 September or later. It is planned to provide an itinerary of the trip during July or August. For details or advance bookings, please telephone John's secretary, Sharon Harrington, on (61) 07 4042 1277.

Fieldtrip C: Laura region: Minimum two days, but there is much flexibility and some groups are likely to stay several days. Most of the road from Cairns to Laura is now sealed. The minimal itinerary should include the Split Rock site complex, Laura Creek Petroglyph Site, Mushroom Rock and Giant Horse Gallery, and the Quinkan Regional Cultural Centre in Laura. Tours guided by Ang-gnarra Traditional Owners are available, costs being between $A85 and $A110 per person. An alternative or addition is a visit to Jowalbinna and/or Deighton River, where Stephen Trezise will conduct guided tours (costs in the order of $A85 per person) of the more remote but magnificent sites and where limited accommodation is available.

Fieldtrip D: Bare Hill near Kuranda, in the hills near Cairns, can be visited with the Djabugay Rangers. The cost is $A66

Quinkan Gallery, Laura. Photograph by R. G. Bednarik.

per person for the half-day tour, but participants must provide their own transport.

Transport: Hire cars to be taken to Laura must be 4WD. To Bare Hill, a 14-seat minibus that requires no bus driver's licence can be hired for about $A130.

Registration

To register for the AURA Inter-Congress Symposium in Cairns, please use the registration form provided (copies can be downloaded from *http://mc2.vicnet.net.au/home/congress/web/cairns.html*).

Registration fees are $A100.00 for members of AURA, $A60.00 for student and retiree members of AURA, and $A150.00 for non-members. Membership with AURA can be obtained at the registration desk. Registration covers a conference satchel and contents; light refreshments on arrival; coffee, tea and cake or homemade cookies during session breaks; refreshing buffet luncheons; and field trip participation and literature. It excludes dinners, transport (other than venue's courtesy bus) and accommodation. The Registration Desk will be open on Tuesday (30 August 2005) from 5 p.m. through to 9 p.m. and on Wednesday morning. Academic sessions will commence on Wednesday, 9 a.m., and continue to 6 p.m. each day.

For fully updated details, please visit the symposium homepage at

http://mc2.vicnet.net.au/home/congress/web/cairns.html

Please direct any queries to:
AURA
P.O. Box 216
Caulfield South, VIC 3162
Australia,
or to *auraweb@hotmail.com*

We look forward to seeing you in Cairns!

Profesor John B. Campbell and Robert G. Bednarik
Symposium Chairmen

World rock art

Call for papers

This international conference will be held in Moscow, Russia, from the 3rd to the 7th October 2005, by the Institute of Archaeology of the Russian Academy of Sciences, in collaboration with the Siberian Association of Prehistoric Art Researchers (SAPAR, and IFRAO member) and the Russian State University for Humanities with the support of the 'Ethnocultural Interaction in Eurasia' program of the Russian Academy of Sciences. The organiser is Dr Ekaterina Devlet.

The objectives of the conference will be to focus on archaeological, traditional and innovative approaches to rock art studies. The topics are:

The boundless world of rock art (local styles and global trends)
Archaeology and pre-Historic art studies
Rock art interpretation
Rock art chronology
Shamanism and rock art
Rock art sites: preservation, conservation and monitoring
Rock art news
Art: world of articles or mythology?
Art of Pre-Columbian America: problems of interpretation

The conference consists of academic symposia with 20 minutes presentation time for papers, to be followed by five minutes for questions and discussion.

Prospective participants are encouraged to submit paper proposals to *RA-conf05@yandex.ru* (the message titled as *conf05_your name*) or sent to the organising committee at the address below. Accepted papers of up to 9000 signs (or abstracts) will be published before the conference. Please submit Word files (.doc, .rtf), one black-and-white drawing in jpg or tiff, by e-mail or mail to the organising committee.

Several special events are to coincide with the conference, including a rock art exhibition at the Faculty of Art History, Russian State University for Humanities. The working languages are Russian and English, Spanish translation may be provided if needed. Professionals interested in having recourse to the academic exchange system should contact the organising committee as soon as possible. The Institute of Archaeology of the Russian Academy of Sciences will provide visa support and the organising committee will assist with hotel reservations if needed. More details may be requested from:
RA-conf05@yandex.ru
International Conference 'World Rock Art'
Institute of Archaeology
Russian Academy of Sciences
Dm. Ulianova st., 19
117036 Moscow
Russia

The uses and abuses of archaeology for indigenous populations

World Archaeology Congress, Indigenous Inter-Congress, Ranataua, Tauranga, Aotearoa/New Zealand, 8–12 November 2005.

Conference Convenors: Des Kahotea (*dkahotea@ihug. co.nz*) and Joe Watkins (*jwatkins@telepath.com*)

Program Chair: Stephanie Ford (*stephanie_ford_wac@ hotmail.com*)

WAC focuses on the importance of the historical and social role and the political context of archaeological inquiry, and seeks to make studies in archaeology significant to the wider community of individuals, groups, and nations. In keeping with these aims, WAC presents this Indigenous Inter-Congress as a means of providing a forum for examining a range of issues concerned with Indigenous peoples and their pasts. WAC's First Code of Ethics acknowledges the obligations of professionals in archaeology and heritage management to indigenous peoples. This involves the recognition of the importance of indigenous cultural heritage (sites, places, objects, artefacts, human remains etc.) to indigenous people and also, that this heritage rightfully belongs to them as their cultural property.

Call for abstracts

The World Archaeology Congress issues a global call for abstracts from which to select speakers at the Inter-Congress. Sessions include:

Who is indigenous? - Sven Ouzman, South Africa, *ouzman@ uclink.berkeley.edu*; Joram Useb, Namibia, *wimsareg@iafrica. com.na*; Joe Watkins, USA, *jwatkins@ telepath.com*
Indigenous paths to archaeology - George Nicholas, Canada, *nicholas@rm-rstar.sfu.ca*; Sonya Atalay, U.S.A., *sonya_atalay@ yahoo.com*
The representation of indigenous peoples in archaeological theory - Alejandro Haber, Argentina, *afhaber@arnet. com.ar*; Gabriel De La Luz Rodríguez, Puerto Rico, *gabrieldelaluz@adelphia.net*
Museums: the good, the bad and the ugly - Dorothy Lippert, U.S.A., *Lippert.Dorothy@nmnh.si.edu*
Protecting indigenous cultural and intellectual property - Ken Isaacson, Australia, *kisaacson@southerngulfcatchments.com.au*; Julie Hollowell, U.S.A., *jjh@indiana.edu*; George Nicholas, Canada, *nicholas@rm-rstar.sfu.ca*
Repatriation: issues for communities - Naomi Anderson, Australia, *naomi.anderson@unisa.edu.au*; Chris Wilson, Australia, *christopher.wilson@flinders.edu.au*
Research and human remains - Lynn Copes, U.S.A., *lec2002@ columbia.edu*; Larry Zimmerman, U.S.A., *larzimme@iupui.edu*
Resolving the conflicts between archaeological and indigenous significance in heritage assessments - Desiree Martinez, U.S.A., *drmartin@fas.harvard.edu*; David Johnston, Australia, *davej@ iimetro.com.au*; Sven Haakinson, U.S.A., *sven@alutiiqmuseum. com*
Parallel perspectives - Carol Ellick, U.S.A., *cjellick@ srifoundation.org*
Reverse archaeologies - H. Martin Wobst, U.S.A., *wobst@ anthro. umass.edu*, Sally K. May, Australia, *sally.may@anu. edu.au*
The NAGPRA: Triumphs, trials, and tribulations voices from Indian country - Diane Lorraine Teeman, U.S.A., *dteeman@ darkwing. uoregon.edu*

Abstracts of 500 words will be accepted up to 1 August 2005. Please email your abstract to the Program Chair, Stephanie Ford: (*stephanie_ford_wac@hotmail.com*). If you have identified a session that you would like to present in, you should email your abstract directly to the session conveners. You will need to include your contact information (name, institutional affiliation if any, mailing address, phone, fax and email). Authors selected to present their papers will be notified within one month of submission of their abstract. Full final paper and illustrations, in electronic format will need to be submitted to the Program Chair by 1 October 2005.
Website: *http://www.worldarchaeologicalcongress.org*

Tools of the trade

Chacmool Conference 2005, 10–13 November 2005

In 2005, the annual Chacmool Conference will deal with the remarkable array of new tools to better interpret the archaeological record that have been employed in recent years. The conference will also address the use of the archaeological record to examine the invention and development of technologies of the past.

Papers are now invited and their titles and abstracts, of approximately 150 words, should be sent by Fax to (403) 282-9567 or via e-mail to: *chacmool@ucalgary.ca*

The archaeology of trade and exchange

AAA 2005 Conference

To be held at Fremantle, Western Australia, from 27 to 30 November 2005. The sessions listed below have been proposed. If you are interested in presenting in these sessions please contact the session organisers (*www.aaa-aima-2005.conf.uwa.edu.au/ programme/sessions*). The deadline for paper submissions and poster submissions is September 1.

Trade and exchange in the Cape York-Torres Strait-Papuan Borderlands
Contact, mobility, encounter and exchange: rock art in its social context
The ethical boundaries of commercialisation of heritage
Intercolonial trade in the archaeological record, artefact typologies and research materials
'Worse things happen at sea': Papers in honour of Dr Bruce Veitch
Archaeology of frontier conflict
Archaeozoology: The study of the exchange between people and their environment
In-situ preservation and/or stabilisation of cultural heritage sites
General regional session on PNG/Island Melanesia
Advances in archaeological methods
Archaeology in museums

If you intend to organise a session please contact us soon. We would particularly like sessions related to *The archaeology of trade and exchange*, although we welcome other sessions. We also invite proposals for workshops (workshops to be held Sunday 27 November).

Website update: the website has been updated and now contains information about registration (this can be done on the website), important dates, the timing of the program, the venue, poster/ paper submissions, conference fieldtrips (*wet* and *dry* Rottnest trips, a Southwest weekend, Murujuga [Burrup Peninsula], the Swan Valley, the Golden Pipeline to Kalgoorlie-Boulder), accommodation (the conference hotel is The Esplanade Hotel) and child care.

On behalf of the organising committee: Alistair Paterson, *paterson@arts.uwa.edu.au*; Corioli Souter, *corioli.souter@ museum.wa.gov.au*; and Fiona Hook, *fiona@archae-aus.com.au*

Registration: you can register on-line using the Shopping Cart function, so follow the links. Alternatively, print the registration form and send the completed form with payment by mail or fax. 'Early bird' and student rates are available. Registration includes lunch, and morning and afternoon tea for the three days of the conference (Monday 28 November to Wednesday 30 November) as well as some drinks and pre-dinner food at the official welcome on Sunday 27 November. You can also pay for the Conference Dinner

(Wednesday 30 November) and the First Night BBQ (Monday 28 November).

If you have any difficulties with the website on your browser, please email the Website Chair Sam Bolton, *boltos01@student.uwa.edu.au*

Website: *www.aaa-aima-2005.conf.uwa.edu.au*

Australasian Archaeometry Conference

12–15 December 2005, ANU, Canberra

The 2005 Australasian Archaeometry Conference will be held at the Department of Archaeology and Natural History, Coombs Building, Australian National University, Canberra, Australia, hosted by the Department of Archaeology and Natural History, RSPAS, and the Centre for Archaeological Research. The organising committee invites sessions covering all aspects of scientific applications (biological, physical and chemical sciences) in archaeology. Session proposals (title and max. 200 word abstract) are now being considered and should reach the committee by February 11th 2005. Proposals for technical workshops are also sought and should include details of technical/space requirements. The organising committee will consider theoretical and interpretative sessions as well as those discussing archaeometric techniques. Sessions and papers usually focus on Australasia and the broader Asia-Pacific region, but sessions/papers by researchers working in other geographical areas will also be considered, especially if they have some relevance to work within the region (e.g. help to build up technical competency etc.).

For further details and to submit session/workshop proposals contact: Andy Fairbairn (*andrew.fairbairn@anu.edu. au*) or Sue O'Connor (*sue.oconnor@anu.edu.au*) at the Department of Archaeology and Natural History, RSPAS, Coombs Building, Australian National University, ACT 0200, Australia.

Contributions are now requested for the lecture sessions, poster session and workshop of this year's Australasian Archaeometry Conference, to be held at the Department of Archaeology and Natural History of the Australian National University, Canberra, Australia from the 12th to the 15th of December. Sessions have been arranged in six sections:

Section A. Geoarchaeology
Section B. Biological Science
Section C. Material Science
Section D. Chronology
Section E. Computer applications
Section F. Conservation Science
Section G. General
Section H. Posters

Prospective contributors should contact the session convenors directly. Papers should be limited to 20 minutes in length (excluding question time), unless prior arrangement is made via the convenor with the conference committee; full audio-visual facilities, including digital projection, will be provided.

Prizes of $200 each will be awarded by the conference for: Best Paper, Best Student Paper and Best Student Poster.

To contact the conference organisers email *andrew.fairbairn@anu.edu.au* or *sue.oconnor@anu.edu.au*, or post to: Dr Andrew Fairbairn/Dr Sue O'Connor, Dept. Archaeology and Natural History, RSPAS, ANU, Canberra, ACT 0200, Australia.

Website: *http://car.anu.edu.au/Archaeometry/archaeometry_conference.html*

ALEXANDER MARSHACK

4 April 1918 to 20 December 2004

The last time we saw Alex Marshack was in the autumn of 2004 at his and his wife Elaine's Greenwich Village apartment in New York's Lower Manhattan. He had survived a stroke and a difficult period of healing, but his mind was as sharp as ever. 'Let me see that thing', he gestured to Leslie's camera. Alex and she had first become friends over their mutual love for photography and archaeology; they had to 'talk shop' about photography before we could get to talking about research. This was the ritual.

Our new digital Nikon dazzled him. 'Nikon made me the filters I took to the caves. They sent me out with prototypes. I tried out everything for them', he said shaking his head at a type of camera he had never seen before. 'Now look at this! Instant gratification. To think of all of the equipment we lugged to Europe that first time'. He and Elaine laughed, recalling the trunks they had taken and the small toy microscope that had become the key to his revolutionary approach to archaeological methodology. Handing the camera back without taking a shot, he shook his head gently with a bow to the changes of time and whispered, 'So much to learn. I need more time …' He then turned to us both and, with all of the energy and intensity we'd come to know and love in him, he dove in with 'Now, tell me about the work. What have you found? Who have you seen? What questions do you have? It's all about the questions. Show me everything. And keep telling me your questions'.

This is how it was with Alex.

Alexander Marshack died in New York on 20 December 2004 at the age of 86. A man of boundless energy, he came to archaeology in the early 1960s while investigating a book for the U.S. Space Agency, NASA. His work led him to wonder why humanity had been able to put people into space, and to satisfy his wonderment he went further and further back into human history. He found himself 'appalled at what seemed the inadequacy of the record'

because 'nothing as complex as the space program, or as complex as modern civilization or modern [humanity], could have derived from the incomplete and primitive creature imagined and documented in the scientific journals' (Marshack 1972: 11).

A chance reading of a *Scientific American* article that describes the discovery of a 6500-year-old bone fragment in Ishango later helped him glimpse an answer and lead him to formulate his first ideas on notational calendar systems. Fuelled by his questions on this possibility, he consulted with Hallam Movius, Jr., of Harvard University, who became a life-long friend and supporter. Hallam encouraged him to go to France to verify his theory. While there, Alex came across a grooved bone fragment from Abri Blanchard, stored in a dusty corner of an old museum. 'Unraveling the mystery of the bone fragment with its lunar notation was the first step in a fascinating research project that has occupied me ever since' (Marshack 1975: 66). He wrote this over three decades ago. That mystery engaged him until the day he died.

His approach, unlike any before, was to look scientifically at the artefacts, in a manner he called 'internal analysis'. Placing portable items beneath his microscope, he could ascertain the temporal order of the construction of lines and, in a time sequence, give attribution to the various creators of a particular artefact. His work also shed light on the artefacts' purpose and use. He later combined his systematic method of internal analysis with his background in photography to use infrared photography and a variety of specialised filters in analyses of painted panels in Franco-Cantabrian caves (most notably the horse panel of Pech Merle, as well as panels in Niaux and Gargas). He was able to show the temporal order in the construction of the paintings as well as their layered materials.

A prodigious writer, he published two books and over 200 articles and book chapters during the last 40 years of his life. His 1972 book on his theory of portable lunar calendars, *The roots of civilization: the cognitive beginnings of man's first art, symbol, and notation*, became a cultural and professional milestone in understanding our ancestors.

Alex's great contributions ultimately are probably not his discoveries so much as his willingness to see and advocate to both public and academic audiences that Palaeolithic peoples were individuals with active minds, systems of symbols and writing, and lives as complex as our own. Nothing fascinated him more than the minds of our ancestors and the implications of them for our future. 'What seems to be emerging from these new studies is a view of early [humans'] way of thinking as being exceedingly complex and surprisingly modern', he wrote.

> In this culture of early *Homo sapiens*, the real and the symbolic worlds were intertwined, and there was a continuity and sequence in [people]'s ritual and ceremonial relationship to that world. Art, image, and notation were means of expressing that complex reality, of recognizing and participating in it … No more profound question exists than that of when and how this capacity began and where, eventually, it will take us (Marshack 1975: 89).

Nature writer Peter Matthiessen once said that the world seemed to have only a few dinosaurs left. He saw dinosaurs as people who, though surrounded by niche-driven pressures, were still able to see the big picture and put together ideas that could cross both time and disciplines. When we received a note from Elaine telling us of Alex's passing, we immediately thought that the world had lost one of its great dinosaurs. Ian Tattersall, from the American Museum of Natural History, echoed this in the *New York Times*, saying that Alex is 'one of the giants on whose shoulders the current generation of researchers stands' (Bayot 2004: 6).

Alex's 1975 article in *National Geographic* opens with a photo of him shining a light upwards beneath a panel of what he called 'meanders' in Chamber A1 of Rouffignac Cave. It is a familiar space to us because we do much of our research in this chamber, especially under this panel. The first time we worked here, we found the packaging from an old Ilford film on the floor. Leslie brought it back to New York and teasingly handed it to Alex saying, 'I think you left something behind'. Horrified he looked seriously at the package for a moment and then with a laugh said, 'I never shot Ilford! Now, show me what you've found. What are your questions? I need to know your questions.' With a new collection of photos from our latest trip, we sat down and, picture-by-picture, discussed what we had found and what we thought were the right questions to ask. Each visit to see him would continue our trying together to unravel the lines from the walls of the caves we had visited, and to honour the complex minds of our ancestors.

Surrounded by piles of papers and pictures, a microscope on the dining table, and the view of the Manhattan skyline from the window, Alex shared with us his latest research, his ideas, but most of all the spirit to ask the questions no one else is willing to ask.

'It's all in the questions', he told us each time we saw him. 'What do *you* think?'

We had all only just begun to discover what Alex thought.

Leslie Van Gelder and **Dr Kevin Sharpe**

REFERENCES

Marshack, A. 1972. *The roots of civilization: the cognitive beginnings of man's first art, symbol, and notation.* McGraw-Hill Book Company, New York.

Marshack, A. 1975. Exploring the mind of Ice-Age man. *National Geographic* 147(1): 62–89.

Bayot, J. 2004. Alexander Marshack, 86; studied Stone Age innovations. *New York Times* 28 December, p. B6.

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'Bradshaw' art — an interesting whodunit, or a matter of national importance? A conspiratorial cover-up or state of collective denial?

By CHRISTOPHER BROWN

O.K. that's it! I need to know the facts! I reckon that I've heard all the rumours I can stand; now I want to know the truth!

I was driving along a bush track with a bloke I know and there it was again.

"Oh, the Bradshaws", said he, "they're the paintings that weren't done by the Aborigines, aren't they?"

"Hmmm well," said I, "as far as I know there hasn't been anyone else here who could've done 'em!"

"I heard that they think aliens might've done 'em!" ventured my learned friend.

Think I'm kidding? *No*, I definitely am not! And it isn't the first, second or even the third time that I've heard this sort of conjecture.

So where does it all come from?

Isn't it amazing how everyone says 'they' are saying this, or 'they are saying that', without really knowing who 'they' are?

Or 'I heard' this, 'I heard' that!

"*From who?*" I implore.

Well, that's what started all this, because I don't like not knowing. Especially when we are talking about an iconic art form that is very well known, very important, and everyone seems to have a different theory as to its origins. Being a tour-guide I need to know. Simple as that.

The widely termed 'Bradshaw art' is the ancient Kimberley rock art that has been attracting worldwide attention over the last few years. This has catapulted the Kimberley region into the frontline of worldwide pre-Historic rock art destinations, and, due to the elegant nature of the art, has changed the way researchers have been looking back at our Kimberley pre-History. Our understandings of the origins of human cognitive thinking could well be radically changed by this art. These 'Bradshaws' have also been a feature of the sandstone shelters of the Kimberley since the last Ice Age, apparently, and are called 'Gwion' art by today's Aboriginal people. The theories abound amongst the wider community as to the origins of this very special heritage. Depending on who you talk to, the paintings can be said to be over 60 000 years in antiquity, and the result of an encounter of the third or even fourth kind, with strange and unknown aliens. Both of these assertions draw a very long bow, of course, but I have found that they point to a much deeper conflict of interest between some rock art researchers and the traditional Aboriginal people who 'belong' to this art.

It appears that a rift has developed between the more conservative 'academia'-based researchers into rock art and a newer breakaway group of researchers, supported by some very well known and well moneyed illuminati. The 'new group' has formed its own foundation and is sponsoring its own studies into the Kimberley art, independent of and, it appears, despite of, the well established and world-recognised rock art researchers. The traditional owners of the ancient art in question, the north Kimberley Aboriginal people, and their representative bodies add a third dimension to the equation. They look at the art as having 'been there' since the Dreaming, and seem quite unruffled by the assertion that they 'didn't do them'.

The easy breakdown of how to tell the difference is all in the name. There is 'Bradshaw art' or there is 'Gwion art'. Mind you, there is probably a majority of people who know this art as Bradshaw art, simply because that is all they have heard it called to date.

Ah, you may say, this is just another emotional debate over a name.

Wrong — this is a crucial discussion about a whole range of important issues. These issues are not just to do with pre-History; they are, more importantly, to do with social development and where we as Australians are in 2005 – 2010. This discussion cuts right to the quick of the national debate on indigenous issues, and uncovers the swirling mass of deep, dark insecurities that lie very close to the surface of our Australian psyche and which have plagued our nation since 1788. The above interested parties in this discussion are, as far as I know, not particularly interested in anything more than their own political ends, and yet this debate has been going on in some form or another for a very long time. To grasp this new manifestation of such an old script, we must look at the current sides to this debate.

The traditional people of the north-west Kimberley region are a fairly quietly spoken lobby of people, who are the remnant population of a once densely populated and culturally rich region. They are occasionally represented by various government-sponsored organisations, and sometimes various individual Aboriginal spokespeople are quoted on this subject. Mostly, though, the Aboriginal views on the Gwion art have been particularly low-key. Any loud noises from this sector are usually the result of politically motivated rantings from well meaning but, alas, under-educated white 'representatives' of Aboriginal interests.

On the other hand, a group of Australian and international philanthropists has established an exclusive 'foundation' to buy several 'stations' in the Kimberley region and directly impact on the art and the people who live here. These are the 'Bradshaw' theorists. They have a well-organised web-site and are not backward in coming forward with their views on the world of pre-History, and just who the 'winners' and 'losers' in it were. They apparently believe that they are to be the 'saviours' of the ancient Kimberley rock art and are here to 'protect' this heritage from imminent destruction.

Meanwhile in my search for some semblance of truth I was able to find the website of the Australian Rock Art Research Association, or AURA. AURA is a scholarly society of academics and non-academics who are vitally interested in all rock art — everywhere — including the Gwion art of the Kimberley. I also found, to my amazement, that AURA has been calling the Gwion art by its proper name for ages, and has been instrumental in influencing the International Federation of Rock Art Organisations (IFRAO) in their declaration of the term 'Bradshaw' as having been superseded by the term 'Gwion', also.

Well, isn't it always the case that the 'squeaky wheel gets all the grease'. Here is a perfect example; the 'squeaky wheel' contingent has been so noisy that I totally missed the goings on in AURA and its internationally recognised journal *Rock Art Research*. I fear everyone else has been deafened by the 'squeaky wheel' as well, because *Rock Art Research* has published several substantial research papers, (particularly by David Welch) which have rebutted the views of the Bradshaw Foundation, but have been conspicuous by their absence from the local Kimberley learned debate. According to the editor of AURA, Robert Bednarik, AURA has also made several forums available for debating these very issues since 1988, but a lot of the mainstream academics have failed to take up the opportunity. The oft-quoted and much flaunted 'dating' of 17 400 years is also, it turns out, quite open to question and will only become an accepted dating with much more collaborative evidence.

Some people, starting with Joseph Bradshaw 110 years ago, whose name adorns the art, have theorised that this art must

have been painted by people from 'elsewhere'. The logic goes like this: because this art is very fine and would have taken a lot of skill to produce, it could not possibly have been done by Aboriginal people. Their current art styles are so totally different, and their existing skills could not have coped with this level of artistry. Just who this 'someone else' would have been has never been clearly postulated, let alone established. Whisperings of ancient Egyptians, African Bushmen and even 'extra-terrestrials' are to be heard these days floating on the ether of the public imagination. But on the strength of Mr Bradshaw's original ponderings, the 'Bradshaw Foundation' has set out to conduct studies outside the established organisations.

Hey, I've got no axe to grind, other than to get to within a light year, or so, of the truth! I find this all very fascinating, and, who knows, little green men may just have landed on the Kimberley coast 30 000 years ago, as they could have done anywhere, but I don't think it was they who painted the Bradshaw or Gwion art!

Yes, I am being a bit over the top, but so are, I think, the 'Bradshaw theorists' who are, for the most part, responsible for these and other speculations. This fascinating art, depicting people at play, hunting, posing and performing ceremony could well be among the world's first forms of recorded information, although the available datings are contradictory and open to speculation. The thing we do know is that the art shows people involved in a huge range of activities, some that are revealing for their time, such as the use of ocean-going boats, and others that infer a very well organised, and highly developed society at play, such as the intricate depictions of ceremonial dance.

The thing is, there is absolutely nothing un-Aboriginal contained in any of this ancient art, with the exception of the ocean-going boats, which can be easily understood when placed in context. These people had boomerangs, multi-barbed spears, headdresses and bodily accoutrements, which are to be seen to this day, somewhere in Aboriginal Australia. The ocean-going boats were obviously another reflection of the sophisticated heights that these people had reached, just as the stylish art forms themselves are. Their technology was part of a long and enduring continuum of stone and wood that obviously suited the situation and posed no need for change. I think that our biggest suspects in this particular 'whodunit' are the people who were living here at that time — the ancestors of today's Kimberley Aboriginal people.

The north Kimberley people, who have obviously been living with this art for thousands of years, believe it to represent the 'dancers of the Dreaming', the Gwion people. Their appreciation of its ancient lineage is well documented in a widely held belief that these dancers and their corroborees, along with the myriad of different activities and art styles, were enacted and painted 'before their time'. From what I can gather, in Aboriginal religious terminology, 'before our time' or 'before people' refers directly to the Dreaming or creation epoch. This form of reference is used by Aboriginal cultures from one side of Australia to the other, in relation to the crux of their cosmologies, the Dreamtime. That their ancestry, as people, traces back to the creation of all things is a paramount cornerstone of Aboriginal religious philosophy as researched and recorded by just about all studies thus far. The Bradshaw theorists tell us that this 'before our time' belief illustrates that the paintings were the work of 'someone else', not the Aboriginal people. In other words, every researcher into Kimberley cultures from Elkin to Connors has missed a very important point in their deliberations — the Aboriginal people were not here in the formative periods of their culture — it was 'someone else'.

The totemism of the Kimberley is also well represented by some legends that attribute the maintenance or retouching of the art to Gwion Gwion or Kuyon Kuyon, depending on the linguistic source. Gwion is described as a little bird with a fine beak, which, it is said, paints the fine lines of the art with blood from his 'bleeding beak'. These references are very typical of Aboriginal religious mythology around Australia, and the name Gwion is, as previously mentioned, a general term of reference for the art and the people in it. This legend is obviously the 'face-value' explanation for the fact that the Gwion art never seems to fade away, as all other contemporaneous art has done for thousands of years, and that Aboriginal people were well aware of this and, due to this, placed the art in a special category. This traditional mythological reference to the artworks is also used by the Bradshaw theorists to denote a lack of ownership of the art by the Aboriginal people.

It is also widely known that some researchers have been told, on occasion, that this art was 'rubbish art', particularly when it was found in association with the famous Wandjina art. The supremely important 'creative beings' of the creation epoch, in the religious mythology, were the Wandjinas, whose influence is spread throughout the Kimberley region. The Gwion art, on the other hand, has a more restricted range of occurrence, and plays a much more subtle role in the doings of the Dreaming. Indeed, it appears, a much more secret one also. The Aboriginal elders' practice of dismissing or downgrading certain areas of secrecy, to lead researchers away from sensitive sources, or to avoid embarrassment, is also well documented throughout Aboriginal Australia. This has not been an issue of any great importance elsewhere, but has also been used in the case of the Gwion art as justification or even evidence to substantiate the Bradshaw theorists' view of pre-History.

So, I have to ask the question, why is Gwion such a dirty word to the Bradshaw theorists?

One of the most important aspects of this discussion lies in our historical view of the past. How we see ourselves today is essentially based on how we believe we got to be where we are now. We, therefore, would like to look at our history with pride and be able to point towards that history as our reason for being the people that we have pride in today.

Whether we like it or not, all histories are human histories and therefore have 'the good, the bad and the ugly' tied up in their dusty pages, regardless of human sensitivities. The greatest danger that we face, as the human race, is the doctoring of our past history to suit our present. All the pitfalls and possible blunders that we can encounter in our future are there, somewhere in our past, only the names, times and places are different. Our greatest danger is our own nature, or rather, the failure to control our own nature, and therefore our own destiny.

History is the past, or, at least, our interpretative view of the past. The future is what we plan to do as time takes us to it, and it becomes the present. So where in fact is the present? It barely exists at all before it becomes the past. So if we fluff up the 'now', we do not get another chance, to rectify that present, because it is already past history. Subsequent excuses and 'doctorings' of past events can only be expected when we want to be as justified in our actions as we possibly can be. This is 'human nature'.

'History', then, can become a victim of its time, but with time, human wisdom can sometimes put history back into perspective. The result of human wisdom seems to point to the view that history is negatively tainted by greed and possession, that generosity and equanimity are the most productive and valuable traits for a healthy future. 'Ever-present' human nature, on the other hand, declares that we must own everything within our grasp, whether physically or mentally. We feel that unless we own it, or control it — it is somehow a threat to us.

So what has this got to do with the ancient Kimberley rock art? You might well ask. It is my observation that in calling the art in question 'Bradshaw' art, we are doing history, the Aboriginal

people and ourselves no justice whatsoever. Especially in light of the fact that there is a perfectly acceptable traditional Aboriginal name, 'Gwion', which has much more expressive and descriptive meanings than an English surname.

In one sense this debate begs the question, are we that insecure within ourselves that we have to give this art an acceptable European name in order to make ourselves feel more comfortable about it? The 'Bradshaw Foundation' was specifically formed, it would appear, in order to justify the insecure position it takes by calling our ancient Kimberley rock art 'Bradshaw art'. I may have misread the motivation, but is that not how it appears? The fact that very few people, from one end of Australia to the other, have ever heard of the Aboriginal name, and yet a host of folks are quite conversant with the English name, suggests, very strongly, that these propagators of insecurity are splendidly successful. The 'Bradshaw' theories alluding to 'someone else', though not directly voiced or clearly enunciated, have likewise spread throughout the country like wildfires. Unfortunately most of us who have been happily compliant with this misnomer have not been given the opportunity or the relevant information that would allow us an unbiased appraisal of the facts pertaining to this notion of 'Bradshaw's art'.

In short, Mr Bradshaw was a moneyed Victorian speculator in the early pastoral industry of 'the north' (of Australia). Not only did he dabble in cattle, he dabbled in quite a number of money-making ventures — both inside and outside of the laws of the land. The north was an untamed entity in Mr Bradshaw's time; in fact, the Kimberley was literally the 'last frontier' in the 1890s. The then more than a century old process of taking control of the Australian continent, away from the traditional Aboriginal owners, was slowly drawing to a close. I am sure Mr Bradshaw pondered the 'good old days' of the pioneering past, and saw himself as an explorer and adventurer, slightly out of step with time or, should I say, history, perhaps.

Mr Bradshaw came to the Kimberley region to establish his empire and make money by raising cattle. It was then that he saw examples of the ancient Kimberley art style that was later to bear his name. He was accompanied to the west by his nephew, one Aennus Gunn, later to be immortalised in the book *We of the Never Never*, written by his widow. Mr Gunn was, in fact, a man of the quill, a writer. He has left us with a very interesting account of life in the Kimberley alongside Mr Bradshaw. These writings allude to the dark, deep closet where the insecurities I previously mentioned have evolved, and from whence they continue to haunt the modern Australian nation today.

If there was one constant equation that entered into the process of settlement in Australia by Europeans, it was the impact this settlement had on the traditional native peoples. The total destruction of traditional Aboriginal societies was an inexorable outcome of the march of 'civilisation'. Without exception, settlement meant competition for economic resources; a fight for survival by the settlers, with the existing owners and users of the land. When it came to push and shove, one of the most widely employed tools used by European settlers in overcoming this problem was the rifle. Mr Bradshaw and Mr Gunn (unfortunate name, more so in light of his 'Christian' name) were both very well acquainted with the use of their rifles, particularly with respect to this 'economic competition'. Mr Gunn has left us with more than one chilling account of 'man's inhumanity to man' at the Prince Regent River, in his time there with Mr Bradshaw.

At a later time and on another of 'Bradshaw's Runs' there occurred a particularly messy and well-publicised series of conflicts between the traditional people and Mr Bradshaw and his men. On the Victoria River in the Northern Territory, relations between the traditional owners and Bradshaw's men went from very good to disastrous overnight, apparently due to an all-to-common practice of the times, the sexual abuse of Aboriginal women. The murders and retaliations leading to public trials and hangings were to be 'Captain Joe' Bradshaw's most memorable moment in the history of the Northern Territory.

Here is the dilemma: why has one of the most important of Australia's Aboriginal heritages, not to mention pre-Historic monuments, been tainted with the title of a man who was, frankly, quite happy to shoot the very people who are the descendents of the originators of this iconic art?

Indeed, why have a large group of eminent people put their money and reputations behind the same person in the name of preservation of this cultural heritage, and in the study of it's relevance to the world of pre-History?

I might be being a bit sensationalist, but I would have equated something like this with naming the 'New Israel' (post-W.W.II) with a title that sounded like Hitlerland — or am I just a tad overreacting?

It is interesting to note, on that point, that an even more ironic quirk of history could well have taken place if the 'New Israel' did, in fact, land here in the Kimberley, as some world powers, including Australia, seriously touted at that time. I am sure that the Aboriginal people would have been overjoyed to 'share their hospitality' with a whole new wave of civilising influences, just in case they missed the first lot. I am sure the Palestinians could recommend the benevolence of the Israelis to indigenous people.

But I diverge, yet again.

I have to ask: what is wrong with saying 'Gwion' art?

Many early settlers adopted Aboriginal words for traditional arts, crafts, places, plants and animals, which have carried gracefully into the present. Names such as Uluru, boomerang, woomera and kangaroo appear to be in happy usage. Why then, for aunty Minnie's sake, aren't we calling this most 'Aboriginal' of Aboriginal art 'Gwion'?

Gwion is now the locally accepted Aboriginal name for this rock art — used by many Aboriginal and white Australians in the Kimberley. Variations due to the various languages in the Kimberley, such as 'Kuyon' and 'Gujon' have now been largely supplanted by 'Gwion', and, where other local nomenclature is used, 'Gwion' is well known and utilised as an acceptable term of reference by typically generous traditional people.

Is it possible that the 'facts of the matter' really boil back down to those insecurities? A quick visit to the web site of the 'Bradshaw Foundation' says it all. There, in 'black and white', so to speak, are the impressive words — "They predate the present Aborigines". Yes, you read it right, the Bradshaw Foundation says that the Gwion art predates the present Aborigines. Without any stutters or clearings of the throat — incredible!

Dumbfounded would be a gross understatement of my reaction on first reading this expose. So how did these people come to arrive at this momentous adjudication, particularly in light of there being just one dating of a minimum 17 400 years BP, contradicted by another dating to less than a third that number, for this art; and the knowledge that it is widely believed that Aboriginal people have occupied Australia for around 60 000 years.

"No answer" was the glib reply.

I searched and clicked on any- and everything that I could find in the site, but no answer. I tried the world-wide web, nothing. No new findings of a strange new race of people in the Kimberley region. No new dates to place the Gwion art back into the realms of 'pre-Australoid' Australia. So where can this suspiciously provocative claim come from? And, why would these people so bravely call themselves the 'Bradshaw Foundation', and, so, refute the usage of the 'traditional' name for this art form.

I do not pretend to know the reasoning behind the naming of the Bradshaw Foundation or the objects and aspirations of the

organisation or the people who belong to it. I do know this much, though: if we all were to call the Gwion art by its real name we would probably believe that this highly evolved and 'intelligent' art was executed by the ancestors of the Aboriginal people living in the Kimberley today.

We would, further, have to admit that on the given evidence, the Gwion art represents an important link, for the current people, with their past and with a history that flows directly back into the Ice Age, and into the Dreaming.

We would also have to come to terms with the 'forgotten history', the harsh and often brutal treatment of Aboriginal people in relatively recent times and over an extended period. This 'forgotten history', in no small way, resulted in there being very few people left alive who could rightfully talk about the ancient secret/sacred beliefs associated with this art form.

We would, further, have to acknowledge that this art is truly a part of the associated peoples' heritage, and therefore we should have to gain the permission of these people, if we were to use this art form for our own profit or gain.

In the case of the 'Bradshaw theorists' I genuinely doubt that money or profit is the reason behind this puzzle. The Bradshaw Foundation members have shiploads of that stuff. I do suspect, though, that this is another manifestation of that insecurity issue. God forbid that we should all have to *really* admit that there were actually people, and a society, here before the British arrived. Worse, that those people were actually using the land for economic purposes. Without a wheel? What a hide!

Worse still, that they might have even been quite happy without our 'help'.

Just what to do with the results of the 'collateral damage' accrued in 'settlement' has consistently dogged we Australians since 1788. The damage is still here as large as life and our reactions have not changed too much in all this time. Terra nullius is still alive and well in the Australian psyche and, of course, Joseph Bradshaw 'discovered' the Bradshaw art because the current people were not even here when it was painted!

We cannot now change the past, nor can we right the wrongs that have been done, but we can celebrate the great and good things in our history along with the things that we have in common with the original inhabitants of this great land. In order to truly appreciate the good things we have gained, we also have to face up to the not so good things or we are living in a fantasy and not the real world. The foundations of our present day need to be based on solid ground and not fantasy. There are many, many Aboriginal people with very fond and very realistic recollections of the 'past'.

If we continue to refuse to look at our past and ourselves with honesty and integrity we weaken ourselves as a people and, yes, it will just keep coming back to haunt us. So are we going to continue to support the 'doctorings' of our history? I believe that if we continue on blindly with our state of collective denial, and leave the work of honesty up to our children and grandchildren, it will be a grievous mistake.

Rumours of huge reparations and costs to our esteem and pocket are just as probable as the rumours that Martians painted the Gwion art. Sure, there may be plenty of dirty socks to be unearthed in our collective closet, the aroma suggests as much, but are we going to allow these to taint all the clean clothes in there as well? Who, on earth, would be so insecure as to leave the closet cleaning for their children's children? A good house clean could well be the greatest attainment of all, in our short history as a 'unified', and, dare I say, multicultural nation.

It has been said, "What's in a name?" In this case I say, "Too much to be neglectful".

RAR 22-718

Editor's response

A few clarifying comments need to be added. Concerning the sea-going boats, there are two issues here. On the one hand, I cannot see any evidence of *ocean-going* boats in the Kimberley rock art. If I tried hard enough, I might convince myself that there are images of boats, though my perception is of no scientific value, it is merely a speculation. But to know that they are *ocean-going* boats is, I think, a bit much to claim. Secondly, we have ample evidence of Aboriginal seafaring. Bark canoes were up to 5.5 m long and carried up to six to eight people. They were observed up to 32 km off the coast, even though for the 13-km-trip to Bentinck Island, a terrifying average death rate of 50% has been recorded ethnographically (yet certain armchair archaeologists still think crossing the sea by primitive craft is a piece of cake, and it could even be accomplished on drifting vegetation). In short, the depiction of ocean-going boats in the Kimberley art would be no surprise at all; it is to be expected.

Or to be more direct: there is not one supposed implement or object depicted in Gwion rock art that is not commonly found in Aboriginal material culture. On its content alone, Gwion art is undeniably Aboriginal. Brown well illustrates the insecurities in the Australian psyche, also reflected in the support that revisionists like Keith Windshuttle enjoy these days. If an English revisionist of another genocide wishes to lecture in Australia, he is refused a visa, but our own home-grown product fares so much better. Why, Windshuttle will earn his AO in no time.

Finally, I must not fail to point out that a superb discussion of the Bradshaw issue by Ian J. McNiven and Lynette Russell appeared in one of the 1997 issues of *Antiquity* (71: 801–9). Nevertheless, Christopher Brown may a little harsh on the efforts of the Bradshaw lobby to afford the Kimberley rock art a level of protection. The Kimberley, after all, is in Western Australia, a part of the world whose public cultural heritage protection efforts resemble those of the former Taliban of Afghanistan. I certainly prefer the Bradshaw lobby to that coterie of corporate crooks and political opportunists that form that state's ruling elite, who run a state that is the world's most serious serial offender in cultural vandalism. Seen in that perspective, the Bradshaw group is certainly a benign influence. Ed.

IFRAO Report No. 34

Minutes of the 2005 IFRAO Business Meeting, New Delhi, India

Organisations present: American Rock Art Research Association (ARARA), represented by Leigh Marymor (U.S.A.); Associaçao Brasileira de Arte Rupestre (ABAR), represented by Cristiane Buco (Brazil); Associaçao Portuguesa de Arte e Arqueologia Rupestre (APAAR), represented by Robert G. Bednarik, proxy (Portugal); Association pour le Rayonnement de l'Art Pariétal Européen (ARAPE), represented by Jean Clottes (France); Australian Rock Art Research Association (AURA), represented by Robert G. Bednarik (Australia); Cave Art Research Association (CARA), represented by Elfriede Bednarik (Australia); Centro Studi e Museo d'Arte Preistorica (CeSMAP), represented by Robert G. Bednarik, proxy (Italy); Institutum Canarium (IC), represented by Inge Diethelm-Loch (Switzerland); Moscow Centre of Rock Art and Bioindication Research, represented by Arsen Faradjev (Russia); Rock Art Society of India (RASI), represented by Giraraj Kumar (India); Société Préhistorique Ariège-Pyrénées (SPAP), represented by Jean Clottes (France); Tajik Centre for the Study of Petroglyphs (TCSP), represented by Arsen Faradjev, proxy (Tajikistan).

The meeting was held in the boardroom of the Hotel Jaypee Palace, Agra, India, and commenced at 6:00 p.m. on 30 November 2004. The first part was chaired by the outgoing President of IFRAO, R. G. Bednarik; the second part by the incoming President, G. Kumar. The representative of ARARA, L. Marymor, was appointed as recording secretary.

1. *Apologies and declaration of proxies*. There were no apologies, and three proxies were declared as listed above.

2. *Confirmation of previous minutes*. The minutes of the IFRAO Business Meeting of the AURA Congress at Alice Springs, Australia, on 14 July 2000 were published in November 2000. ARARA moved to accept them, motion seconded by RASI, accepted unanimously.

3. *CeSMAP rock art museum proposal*. A discussion ensued to take up a proposal from CeSMAP that IFRAO endorse a new International Rock Art Museum project located in Pinerolo, Italy. CeSMAP has secured a baroque palace adjacent to the local town hall and is seeking funds to refurbish the building. It would like IFRAO to lend its name to the effort. Pros and cons were discussed, but the committee decided it did not have a detailed enough proposal before it on which to take action. The committee decided to encourage CeSMAP to produce a detailed project proposal in which D. Seglie would publish his ideas, and those of other members, for a world museum. Such proposal could then be considered by the committee for action. AURA moved to accept this, ARAPE seconded, motion accepted.

3. *Reports of the IFRAO Representatives*.
ARARA: Current threatened sites include Petroglyph National Monument, NM; Nine Mile Canyon, UT; and Gillespie Dam, AZ. ARARA has incorporated 'conservation workshops' into its annual meeting format, the intention of which is to benefit a local rock art site, and to highlight conservation management and strategies. ARARA has published a *Public Access Guideline* for land managers of rock art sites on public lands, and is currently working on several education and conservation initiatives. *American Indian Rock Art* No. 30, the conference proceedings from San Bernardino have just been published. *American Indian Rock Art* No. 31, the conference proceedings from Casas Grandes, a volume of student papers, and a volume of papers from the 1994 IRAC conference in Flagstaff are expected to be ready at the ARARA Reno, Nevada conference in May 2005.
Moscow Centre: Conducted a two-week visit to Karelia in 2003. Active with educational outreach. At least two new rock art articles have been published. Consulting at the Lost Valley, Pennsylvania, site in U.S.A., concerning mobiliary rock art.
Institutum Canarium: The website is expanding to take in areas of interest beyond the Canary Islands. It is now publishing in more languages.
AURA: Continues to publish *RAR*, *AURA Newsletter* and *Cave Art Research*, hold conferences and host a large website. Continues to advocate for the protection of the Dampier petroglyphs in Western Australia and feels IFRAO's credibility in proving its effectiveness in influencing national government actions is on the line.
Société Préhistorique Ariège-Pyrénées and INORA: *INORA* continues to appear three times a year, No. 40 is just out. A new book on Cosquer Cave and three new books on Chauvet, as well as new books on Lascaux and on Plains Indian rock art have been produced.
Associaçao Brasileira de Arte Rupestre (ABAR): Held public course on archaeology and patrimony conservation.

4. *Report of the outgoing President*. During his four-year term, the outgoing President focused on 'large' issues in rock art conservation, achieved a good degree in standardi-sation in terminology and methods, and secured a Code of Ethics. He feels that standards of research tools and site protection require more work. He reminded the meeting that IFRAO is a democratic organisation, each member is IFRAO in its own

area and sphere of influence. The position of the President is honorary only. Hope for the incoming president to build on past progress is expressed.

5. *Rock Art Preservation Fund*. This fund is not directly run by IFRAO, but its representatives will report its grants and donations to IFRAO. Funds are dedicated to specific projects. Any IFRAO member can use the Fund as a vehicle of tax exemption to receive funds for specific projects. The Fund is a charitable fund registered in the state of Victoria, Australia. Substantial donations of funds for conservation of the Dampier rock art precinct have been received or committed.

6. *Matters submitted for consideration*.
6.1. The meeting lacks a quorum to vote.
6.2. Moscow Centre of Rock Art and Bioindication Research brought forward a letter requesting membership from the Frankfurt Museum Society of Pennsylvania, Gary Yannone, President. The Society will be encouraged to become involved with US rock art organisations and to reapply to IFRAO in the future.
6.3. UISPP is now collaborating with WAC and both organisations are interested in establishing a relationship with IFRAO. The next UISPP meeting is scheduled for September 2006 in Lisbon; IFRAO may time its next meeting to take place just before or after this congress.

7. *Location of next IFRAO meeting*. APAAR will co-host the next IFRAO meeting with Asociación Cultural 'Colectivo Barbaón' (ACCB) and INORA. The meeting will take place at the University of Tomar, Portugal. AURA moved for a postal ballot to confirm the proposed meeting arrangements, CARA seconded. The vote passed unanimously. The 2008 conference is expected to take place in Salta, Argentina, with a formal invitation expected soon. Failing this, ABAR (Brazil) would be interested in hosting.

8. *New business*.
8.1. *Rock Art Studies: A Bibliographic Database* is a compilation in progress, which was begun in March 1993. Currently the database contains over 14 400 citations to the world's rock art literature. The database is available on-line, free of charge, hosted by University of California, Berkeley Bancroft Library and the Bay Area Rock Art Research Association. An update is expected in May 2005. Address: *http://bancroft.berkeley.edu/collections/rockart.html*
8.2. Welcome to the new IFRAO President, G. Kumar, of RASI. He then reports that the Agra conference had 110 participants. Publication of conference proceedings may not be possible, unless perhaps a subject-focused volume is proposed and taken up by a publisher such as Aryan Books or Brepols. Participants are encouraged to submit their papers independently to appropriate research journals.

9. *General matters*. RASI presents a resolution to promote rock art in India, especially in light of the Minister of Culture's promise to establish a rock art division within the Archaeological Survey of India, made during the congress opening ceremony. The Minister has also instructed the Indira Ghandi National Centre for the Arts and Indira Ghandi National Museum of Man to pay more attention to rock art research. It is moved that a letter of appreciation be sent to the Minister.

10. *Adjournment*. The meeting is adjourned at 8:00 p.m.

Minutes by M. Leigh Marymor, President of ARARA

Agra 2004: report of a magnificent rock art congress

I trust that the delegates of the tenth congress of IFRAO, held by the Rock Art Society of India in Agra from 28 November to 2 December 2004, appreciate that we cannot make a habit of this standard of hospitality at future rock art conferences. The one thousand employees of the Jaypee Palace Hotel, the most luxurious in Agra, were spoiling us mercilessly, and I would argue that it is not in the interest of rock art research to pamper rock art researchers out of their minds — they might become accustomed to this. And I hope that future IFRAO congresses will not follow the Agra example and carry delegates into the lecture hall in sedan chairs carried by four bearers in magnificent traditional costumes.

Oh yes, and the Congress, too, was quite a treat. First and foremost, the organisational aspects reminded me of a Swiss clock: operational perfection seemed to be the norm. Despite the usual last-minute changes to the academic sessions, these adjustments were made with a minimum of fuss and programming was seamless. Apart from the opening and closing plenary sessions, there were three continuous parallel symposia, totalling about 140 presentations. Bearing in mind that two of the five congress days consisted of plenary sessions, this number of papers demanded a well-paced delivery. In my view, the academic standard of papers given was such that our hopes for an increasingly sophisticated scientific discipline in our field seem entirely justified. Most presentations were of excellent standard, and the large range of topics covered by the twelve symposia is symptomatic of the diversification the discipline has experienced in recent years.

The congress began with the Padmashri Dr V. S. Wakankar Memorial Lecture, given this year by Robert G. Bednarik. The first lecture in this series of annual events to honour the father of Indian rock art studies had also been given by Bednarik — in Ujjain in 1990. The 2004 lecture was entitled 'The lasting legacy of V. S. Wakankar', describing how sixteen years after Professor Wakankar's death, his work lives on in the Rock Art Society of India. This was followed by a couple of rock art films, one from New Zealand and one from Borneo. Next, the event was officially opened by Shri Jaipal Reddy, the Honourable Union Minister for Information, Broadcasting and Culture, and Ms Neena Ranjan, the Secretary of the Department of Culture, Government of India. This was followed by the welcoming

Agra Congress: Professor Wakankar participates in spirit. S. B. Ota is in the chair.

address of the Congress Chairman, Dr Giriraj Kumar, the President and Editor of RASI, and the Secretary's report, given by Dr G. L. Badam.

In the afternoon began the first three parallel sessions, which continued on the third congress day. The second day was taken up by a substantial plenary session in the morning, dedicated to the Early Indian Petroglyphs Project (EIP; cf. Kumar et al. 2002). This consisted of three presentations by three of the principal researchers of this major current and ongoing project, which addresses questions of rock art dating in India, most especially the age estimation of the world's earliest known rock art. Petroglyphs at a few sites in central India belong to Lower and Middle Palaeolithic traditions, coinciding temporally at least at two sites with the use of Acheulian handaxes. The EIP Project also endeavours to provide a better chronological framework for the Palaeolithic cultures of the subcontinent of India. This is currently one of the most important rock art projects in the world, and this plenary session was intended as the event's centrepiece. It was also the main reason, albeit not the only reason, for the naming of the congress: '*Rock Art Research: Changing Paradigms*'. The first of these plenary presentations, given by Dr G. Kumar, addressed the current and ongoing excavations at one of the two EIP principal sites, Daraki-Chattan; the second, by R. G. Bednarik, reported the most recent dating results, from optically stimulated fluorescence analyses of the sediments at Daraki-Chattan and Bhimbetka as well as microerosion results from other sites. The third paper, presented by Professor Alan Watchman, reported the first ever AMS radiocarbon dating results from Indian rock art.

The afternoon of the second congress day was taken up by visits of the two world-famous monuments of Agra, the Red Fort and the Taj Mahal. On the third day, the three parallel symposia continued and congress attendees were able to choose from a smorgasbord of presentations and subjects. Symposium topics included the traditional staple topics of global perspectives in rock art studies, new discoveries, rock art dating, conservation and management — but also some new issues, such as the thematic interpretation of rock art and its artistic interpretation, the depiction of animals in palaeoart, and two forward-looking symposia. One of the latter concerned the desired status of the discipline in 2025, the other addressed the future of the Bhimbetka site complex in Madhya Pradesh which has recently been accorded World Heritage status. These papers occupied most of the next three days, and ended with a plenary summing up by Dr K. K. Chakravarty.

There were far too many highlights to begin listing them individually, but one of the most notable developments apparent at this event was perhaps the improvement in Indian work over the previous decade. In 1994, at the rock art session of the New Delhi World Archaeological Congress, most Indian papers were still simple show-and-tell presentations. At Agra, however, the effects of the work of RASI were clearly evident, with many scientifically impeccable and well-documented papers given by Indian participants. This fairly dramatic change augurs well for the Indian school of rock art studies, and congratulations to the leadership of RASI are certainly in order on that account, as well as on the impressive organisational work and congress infrastructure. All sessions were recorded and teams of technical staff were on hand at each of the three sessions. Media conferences were well organised and certainly effective. A small exhibition and poster centre was well attended. Meal breaks were sumptuous affairs on a large lawn, just outside the congress venue, with a great variety of delicacies on offer every day. As acknowledged above, we were pampered as we had never been before, at a rock art event. The luxurious surroundings added a special flavour to the congress. The venue, a large luxury hotel and convention centre, consisted of a sprawling complex of imposing buildings clad with red quartzite outside and white marble inside — a veritable 21st century palace. All of this together resulted in a rock art conference such as the discipline had not seen before: thoroughly organised and presented with an aura of luxury and grace. It was an event those of us who participated will remember for a long time to come.

And then there were the field trips. To travel in India is fascinating even for the average tourist, but rock art sites tend to be in relatively remote places and we had the opportunity of seeing parts of the country not yet affected by international tourism. Indian rock paintings are among the most numerous and most spectacular in the world, and sites such as the superbly preserved Raamchhaya shelters in the sandstone cliffs near Raisen, the extensive galleries of Chaturbhujnath Nala in the Chambal valley and the world-renowned rock art complex of hundreds of painted shelters at Bhimbetka, south of Bhopal, were among the main destinations of the fieldtrips. Many of the congress delegates also availed themselves of the opportunity of visiting the Palaeolithic excavation at Daraki-Chattan, one of the main sites of the EIP Project, to view some of the evidence for the earliest known rock art in the world under the guidance of the site's principal excavator, Dr G. Kumar. The trench was kept open

especially for the occasion, and the numerous exfoliated rock slabs bearing cupules — found under the site's Acheulian occupation deposit — have now been examined by many Indian and foreign scholars. Highlights of this calibre, together with the ambience of many sites and the general charm of the Indian countryside ensured that the fieldtrips were valuable experiences, and were well appreciated by those who participated.

The Agra congress included associated events such as the Annual Meeting of RASI, the Business Meeting of the International Federation of Rock Art Organisations (IFRAO) and several media conferences. Its coverage by the electronic and printed media, both in Agra and later in Bhopal, was as magnificent as any aspect of this event. This has no doubt added to public awareness of the importance of rock art and its preservation, as well as to cultivating an improved sensitivity of the public service to the need of affording the required attention to matters concerning ancient cultural heritage. Already there have been noticeable changes in this area, prompted no doubt especially by the World Heritage listing of the Bhimbetka complex, initiated by me (Bednarik 1994; Ray and Ramanathan 2002). As reported at the congress, it has been found during 2004 that there are difficulties in coping with the substantial increase of visitation prompted by the listing. The maximum number of visitors has had to be limited to 1600 persons per day and Bhimbetka is thus already one of the most heavily visited rock art sites in the world. Visitor facilities, however, remain about the same as they were prior to 2003, when public visitation was quite negligible. It is therefore evident that there are major changes in the public profile of rock art underway in India, and again this can to a large extent be attributed to the tenacity of RASI. If there was one thing every foreign participant of the Agra congress was clear about, it was that RASI, under the leadership of its founder and architect, Giriraj Kumar, has become one of the success stories of IFRAO. It was therefore most appropriate that, on the occasion of this event, the presidency of IFRAO passed to RASI. It is precisely this policy of IFRAO, of promoting effectiveness in rock art studies and preservation in this unique way, that accounts for the continuing vitality of the Federation. As outgoing President of IFRAO, I take this opportunity to congratulate Dr Kumar on his appointment, and on what I regard as one of the most auspicious IFRAO congresses ever held — and certainly the most sumptuous.

Robert G. Bednarik
Convener, IFRAO

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RAR 22-719

Saving rock art: report of a conference

The international conference and round table session entitled 'Salvaguardia e Studio dell' Arte Rupestre mondiale nei principali siti a rischio' (Protection and study of the world's most endangered rock art sites) were conducted by IFRAO member Centro Studi e Museo d'Arte Prehisto-rica (CeSMAP), in conjunction with the City of Pinerolo and the Museo Civico do Archeologia a Antropologia. The event took place from 22 to 24 October 2004 in the chambers of the Municipal Palace of Pinerolo. It celebrated the 40th anniversary of the founding of CeSMAP in 1964, as well as the centenary of the birthday of CeSMAP's inaugural president, Cesare Giulio Borgna, in 1904. Since the conference has produced some momentous outcomes that will affect IFRAO, it is appropriate that a full report be presented here.

The conference began with fieldtrips to some of the rock art sites in the nearby district (Seglie et al. 2004): Balma di Mondon in the Pellice valley (paintings discovered in the 1990s); the *inselberg* rock of Cavour with its cupules and rock paintings; and the Roccio d'la Fantino site above Ponte Raut, in the Germanasca valley, featuring white pictograms that appear to have been applied as slaked lime. A sumptuous lunch during the impeccably organised fieldtrips, for seventy or so participants, was taken in a huge tent erected especially for the purpose on top of the Cavour Rock. The logistics of this event alone would deter any other rock art organisation from attempting it, and CeSMAP has once again shown its great organisational ability.

Two days of oral presentations followed, and they were dominated by the issues of rock art protection and preservation. The sessions were chaired by Dr Maurizio Meni-cucci, the Director of the Turin office of Italy's state television, RAI, which filmed some aspects of the event for transmission. The opening address set the tone: a full account of the circumstances that led to the severe threat to the massive rock art complex of Dampier, Western Australia, and the history of the current IFRAO campaign to avert the destruction of the greatest cultural monument of that continent. It was presented by the IFRAO President, Robert G. Bednarik, who reported that whilst IFRAO had succeeded in halting most of the planned destruction, the confrontation with the state government was continuing because rock art and stone arrangements were still being destroyed. The two previous major campaigns by IFRAO, both in Portugal, were similarly covered by Professor Luiz Oosterbeek, the Secretary-General of the next UISPP Congress. He addressed the epic struggles to save the petro-glyphs in the Côa and Guadiana valleys, as well as the Tagus and Sabor issues,

explaining the history of state vandalism in Portugal and the involvement of archaeologists in it.

These two presentations alone were sufficient to establish the importance of IFRAO's international program of protecting threatened rock art, but there were many others addressing the work of IFRAO members in rock art preservation. The discoverer of the Guadiana rock art, Hipólito Collado Giraldo from the Asociación Cultural 'Colectivo Barbaón' (ACCB), Spain, offered a spirited presentation of rock art preservation issues. Two of the newest members of IFRAO presented superb reviews of their respective organisations' work, the Association Marocaine d'Art Rupestre (AMAR) and the Hellenic Rock Art Centre (HERAC). Abdelkhalek Lemjidi with Dario Seglie of CeSMAP, Co-Directors of the Jebel Sarhro National Park Project in Morocco, addressed the difficult preservation issues of the rock art between the Atlas Mountains and the Sahara. George Dimitriadis, the Director of HERAC, presented an overview of the pre-Historic rock art of the Hellenic Peninsula. Mario Lazarovich, the Director of the Cultural Heritage Office in Salta, Argentine, spoke about the rock art of a sacred mountain in north-western Argentina, Cerro de Guachipas.

Other notable presentations were concerned with issues in northern Italy and the western Alps, including those of Francesco Fedele on the Archaeological Park of Ossimo in the Valcamonica; Angelo Ardovino and Raffaella Poggiani (Archaeological Superintendency of the Lombardy), also on the Valcamonica rock art; Marina Sapelli Ragni and Philippo Gambari (Archaeological Superintendency of the Piedmont), on the preservation problems of rock art in the western Alps; and Annie Echassoux with Henri de Lumley on the natural and anthropic deterioration of the Mount Bego petroglyphs. The academic proceedings closed with a second presentation by Robert G. Bednarik, which was not concerned with preservation issues, but had been specifically requested by the organisers: a progress report of the Early Indian Petroglyphs Project in central India, presenting the earliest known rock art in the world. This attracted considerable attention and prompted a detailed response from the doyen of Italian archaeology, Professor Fedele, strongly endorsing the paradigmatic revisions this project demands.

In all, this was an auspicious event, flawlessly organised by Professor Seglie and his colleagues from CeSMAP. It included the opening of a public exhibition of the same name in the nearby Palazzo Vittone. That building, a substantial baroque palace of three storeys in a commanding position (alongside the large main square of Pinerolo, and thus flanking the Municipal Palace on the right), has been made available to CeSMAP by the City of Pinerolo, as the site of a new initiative announced at the conference: the proposed IFRAO World Rock Art Museum (IWRAM).

This was not the only significant development announced at this event. It was also proposed, by CeSMAP and others, to establish a European and Mediterranean Prehistoric Art Society. Its primary purpose will be to focus on circum-Mediterranean issues in rock art research and protection. The proposal, which was developed from the collaborative project by CeSMAP and the Moroccan Rock Art Association, AMAR, was warmly received at the conference, and plans were made to establish the new association within two years. The conference formulated a declaration calling for the following measures:

1) To create the European and Mediterranean Prehistoric Art Society — EuroMedPAS, aiming at bringing together all pre-Historic art historians, archaeologists, anthropologists, cultural heritage managers and remaining experts, and their organisations.
2) That CeSMAP will have the delegation to ensure the proper legal establishment of the Society, according to statutes to be agreed among the foundation members.
3) That besides the undersigned, all organisations involved in pre-Historic art research, rescue or valorisation will be invited to become founding members, the process of constitution lasting until the UISPP 15th world congress, to be held in Lisbon in September 2006.
4) That a provisional co-ordination, established in Pinerolo, and involving the undersigned, will contact other organisations, namely those mentioned above, for them to become engaged in the process.
5) That, simultaneously, contacts will be established with the European Commission, the European Parliament, the Council of Europe and UNESCO, to present the EuroMedPAS and encourage their collaboration as well.

During the lunch break on 24 October, the seven IFRAO members represented at the conference managed to hold a brief meeting. Chaired by CeSMAP (Italy, D. Seglie), it included Argentina (SIAR-SAA, M. Lazarovich by proxy), Australia (AURA, R. G. Bednarik), Greece (HERAC, G. Dimitriadis), Morocco (AMAR, A. Lemjidi), Portugal (APAAR, L. Oosterbeek by proxy) and Spain (ACCB, D. H. Collado Giraldo). Only two items were discussed: the implications of the establishment of the IFRAO World Rock Art Museum, and the proposed founding of European and circum-Mediterranean rock art organisation.

The Pinerolo conference, supported by the City of Pinerolo, the Ministry of Culture, Education and Foreign Affairs, the Archaeological Superintendency of Piedmont and the Piedmont Region, was a great success and has once again shown the effectiveness of the CeSMAP team in organising such events with great flair and style.

Robert G. Bednarik
Convener, IFRAO

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RAR 22-720

Rationale

IFRAO Global State of the Art
An international rock art meeting at the UISPP 15th Congress
Lisbon, Portugal, 4 – 9 September 2006

The International Federation of Rock Art Organisations (IFRAO) is a federation of national and regional organisa-tions promoting the study of palaeoart and cognitive archaeology globally. Nine members founded the Federation in September 1988 in Darwin, Australia. Currently IFRAO has forty-two regional member organisations covering most of the globe, involving thousands of both professional and amateur researchers.

Over the last eighteen years IFRAO has organised, supported or promoted dozens of local and regional meetings on all continents. As a world non-governmental organisa-tion, IFRAO has also organised major international rock art congresses. These IRACs took place in countries as diverse as Australia, Bolivia, India, Italy, Namibia, Portugal, South Africa and the United States.

In 2006 IFRAO will start a new kind of international meeting focusing on 'The Global State of the Art' in the discipline of Rock Art Research.

An invitation to this three-day event is extended to researchers and members of the IFRAO organisations, who are warmly asked to present the most relevant discoveries, studies and trends in the field of rock art studies from the last decade. Our sessions will be concurrent with the other sessions and workshops of the UISPP 15th Congress that will take place in Lisbon (Portugal) in September 2006.

Presentation of the event

Academic Committee

IFRAO President, Giriraj Kumar (RASI, India.
IFRAO Convener. Robert G. Bednarik (AURA, Australia)
UISPP General Secretary, Luiz Oosterbeek (IPT, Portugal)

Members

Abdelkhalek Lemjidi, Morocco; Alanah Woody, NV, U.S.A.; Angelo Fossati, Italy; Anne Solomon, South Africa; Anne-Marie Pessis, Brazil; Ara Demirkhanian, Armenia; Arsen Faradjev, Russia; B. K. Swartz, Jr, IN, U.S.A.; Carmen Sevillano, Spain; Carol Diaz-Granados, MO, U.S.A.; Charles Robert Bailey, MN, U.S.A. Chen Zhao Fu, P. R. China; Dario Seglie, Italy; David Coulson, Kenya; David Morris, South Africa; Edithe da Silva Pereira, Brazil; Eileen C. Brownlie, United Kingdom; Fernando Javier Costas Goberna, Spain; Fidelis T. Masao, Tanzania; Freddy Taboada, Bolivia; Gabriela Martin Avila, Brazil; George Dimitriadis, Greece; Graeme K. Ward, Australia; Guillermo Muñoz, Colombia; Herta Mandl-Neumann, Austria; Jack Steinbring Wi, Usa; Jane Kolber, AZ, U.S.A.; Jean-Loïc Le Quellec, France; Joerg W. Hansen, France; Julian Becares, Spain; K. K. Chakravarty, India; Kevin Sharpe, United Kingdom; Leigh Marymor, AZ, U.S.A.; Lothar Wanke, Austria; Majeed Khan, Saudi Arabia; Maria Soledad Crochon, Spain; María Mercedes Podestá, Argentina; Mario Consens, Uruguay; Matthias Strecker, Bolivia; Nobuhiro Yoshida, Japan; Franz Mandl, Austria; Paul Faulstich, CA, U.S.A.; Paul S. C. Taçon, Australia; Pedro Schmitz, Brasil; Rob Burrett, Zimbabwe; Roy Querejazu Lewis, Bolivia; Thomas W. Wyrwoll, Germany; Vadim A. Ranov, Tadjikistan; Werner Pichler, Austria; Yakov A. Sher, Russia; Yann-Pierre Montelle, New Zealand.

Organising Committee

João Carlos Baptista, Cláudia Cunha, Angelo Fossati, Ludwig Jaffe, Pierluigi Rosina

Meeting President

Jean Clottes (Association pour le Rayonnement de L'Art Pariétal Européen and Société Préhistorique Ariège-Pyrénées, France)

Meeting Chairpersons

Mila Simões de Abreu (APAAR, Portugal) and Hipolito Collado (Colectivo Barbon, Spain)

Sessions

The *IFRAO Global State of the Art* (IGSA) will be arranged in geographical or thematic sessions proposed both by the organisers and by participants.

Each session will be co-ordinated by at least two persons from two different countries. The co-ordinators will be responsible for the organisation before, during and after their session. This includes invitations, call for papers and selection of papers, chairing the session and pre- and post-editing of material for the website or book. The final date for acceptance of new sessions will be 30 September 2005.

Papers and posters

All aspects of global rock art studies will be addressed, with emphasis on current concerns and developments, the future direction of the discipline and its global priorities. The title, summary and keywords should be sent directly to the session co-ordinators or to the secretariat of IFRAO by 31 December 2005. Later arrivals may be considered, depending on the discretion of the session co-ordinators. Summaries will be published on the official website prior to their presentation. Final texts should include congress feedback.

Languages

The official languages will be English, French, Spanish and Portuguese.

Venue

Lisbon is Portugal's capital, a modern cosmopolitan city steeped in tradition. Inhabited since the Palaeolithic, Lisbon

has a Roman past that can be seen in ruins like ones of the Roman Theatre in the 'Baixa' (downtown). Alfama and other surrounding quarters inherited an Arabic tradition and are among the few old areas that survived the devastating earthquake and tsunami of 1755. In the monument zone of Belém (UNESCO World Heritage Site), which includes the National Archaeological Museum in the monastery of Jerónimos, you can step back to the age of the first voyages around the oceans. The *Parque das Nações* is a new part of Lisbon, built for the remarkably successful EXPO 98. The surrounding beaches and seaside towns make Lisbon a pleasant place to visit with all the family.

The UISPP congress and IFRAO sessions will take place in the *Faculdade de Letras* in the 'City' of the University of Lisbon. The venue can be easily reached by public and private transport from all parts of town. It is close to the airport and places like the Colombo shopping centre and the football stadiums of Sporting and Benfica.

Excursions

Besides a free trip during the Congress, participants can take part in a selection of special excursions to rock art sites in Portugal and Spain covering different chronologies and techniques. Excursions, both before and after the UISPP congress, will be guided by researchers and include rock art sites in the Tejo/Tagus Valley, Douro/Côa, Spanish Extremadura and Palaeolithic caves. A grand-tour will take in sites in both Portugal and Spain.

Registration

This will be through the UISPP congress. Please see general information in *http://www.uispp.ipt.pt/en/inscri.html*

For further information about the 15th UISPP congress see the official web page *http://www.uispp.ipt.pt/*

International Cupule Conference
Cochabamba, Bolivia, 2007

The Cochabamba Rock Art Research Association (AEARC) invites cupule experts from all over the world to the International Cupule Conference, to be held in Cocha-bamba (Bolivia, South America) from 17th July to 22nd July 2007. Cupules are one of the most common forms of rock art and have so far received very little attention. They are found in most countries and belong to different cultural periods. AEARC considers that a specialist gathering is urgently required in order to exchange experiences regarding the research carried out so far in different countries.

The International Cupule Conference will take place in the city of Cochabamba, situated in a beautiful valley in central Bolivia. This region presents a huge variety of cupule sites, which vary in their antiquity, symbolism and functionality. Three days of the conference will be dedicated to the different symposia and the remaining three days to the excursions to cupule areas. Cupule experts are invited to present papers in the following symposia:

(1) Cupules and their antiquity (dating).
(2) Possible symbolism of cupules.
(3) Possible function of cupules.
(4) The re-use of cupules (ethnographic research).
(5) Different types of cupules and their combination with other types of rock art.
(6) Natural cupules (non-anthropic).
(7) Replication work with cupules.
(8) The taphonomy of cupules.
(9) Cupules and rock-gongs (lithophones).
(10) Cupules and their lithologies (the importance of understanding the relationship between cupules and the rock types they are found on).
(11) Different types of cupules in Bolivia.

The ten first symposia will be for the international experts that will participate. English will be the main language. All papers will be of an international scientific standard. The last symposium (on cupules in Bolivia) will be reserved for AEARC's and other Bolivian researchers and will have an introductory purpose for the excursions. Spanish will be its language with simultaneous translation into English.

More details about the presentation of papers and the conference will be published in *RAR*'s November 2005 edition. Any enquiries can be addressed to:

Prof. Roy Querejazu Lewis, President, AEARC.
E-mail: *aearc@hotmail.com*
Postal address: AEARC, Casilla 4243, Cochabamba, Bolivia

The Australian homepage of IFRAO
http://mc2.vicnet.net.au/home/ifrao/web/index.html

Dampier rock art exhibition launched

The opening ceremony of the exhibition *Visions of the Past: the world's most endangered rock* art took place at the Walkington Theatre, Karratha, Western Australia, on 28 April 2005. Karratha had been chosen for the exhibition's world premiere because the town is situated immediately next to the Dampier Archipelago, the very location of the rock art precinct that is the subject of the exhibition.

Speakers at the exhibition opening were selected from some of the principal stakeholders of the rock art. The opening speaker, naturally, represented the primary owners of the cultural monument, the local Indigenous communities. He was Wilfred Hicks, the spokesman of the Wong-Goo-Tt-Oo people, who according to traditional law are the rightful owners of the Dampier rock art. He spoke on their behalf, with senior traditional lawman Tim Douglas by his side to signify his approval. Together they welcomed the audience to their traditional country and emphasised their great concern over the continuing destruction of their cultural monument. This was followed by an archaeological perspective of the great significance of the Dampier rock art precinct, offered by archaeologist Kenneth Mulvaney, President of AURA. He described the forty-year history of neglect and unsuccessful attempts to create a management plan for the Dampier Archipelago. The Chairman of the Chamber of Commerce and Industry of Karratha and District, Gary Slee, then represented the local communities. Gary reminded the audience that rock art, too, has a commercial value, being already a key component of cultural tourism in several other parts of Australia. Two speakers of yet another key stakeholder, the National Trust of Australia, representing the heritage protection agencies, followed him. Thomas Perrigo, the W.A. Executive Director, and Project Officer Karl Haynes spoke about the Trust's great concern, emphasising specific problems endemic to Western Australia. In particular, the Trust had found that the State's relevant government agency, the Heritage Council, adhered to an anomalous definition of heritage, limiting it to European heritage. Robert G. Bednarik, the Convener of the international NGO that initiated the campaign to save the Dampier rock art, the International Federation of Rock Art Organisations (IFRAO), and created the exhibition concluded the presentations.

Representatives of the traditional custodians of the Dampier rock art had acted as consultants to the project, ensuring that none of the images shown in the exhibition included any rock art that may not be viewed by the public. The Dampier cultural precinct features hundreds of sacred sites, comprising rock art and some types of stone arrangements that may not be seen by the uninitiated. In these circumstances, and including the required relevant research and supplementary photographic work, it took many months to assemble the material considered for inclusion in the exhibition. This was followed by its design, the artwork required for the exhibition, and finally by the production of the polypropylene banners forming its core. Literature also had to be created, ranging from brochures, posters, invitation cards and bumper stickers to a series of eight postcards. In addition, promotional displays also had to be created, including two banners designed for suspension in the open, and a floor-standing display banner for use in public places. Finally, several newspaper advertisements were created, flexibly designed for use at different venues.

In all, this work took me from July 2004 to March 2005. In April 2005 I shipped the exhibition and support materials to Karratha, on the north-western coast of Australia, for its premiere within a few kilometres of the location of the Dampier rock art. There, the exhibition was assembled at the chosen venue, the foyer of the Walkington Theatre in the Karratha TAFE campus. After the opening ceremony in the theatre, which seats 400, the public of Karratha and Dampier viewed the exhibition for one week, until 5 May 2005. In that week 1240 local residents saw it. This represents in the order of 8% of the population of Karratha. Because four of the exhibition banners reflected unfavour-ably on one of the major corporate entities in Western Australia, that company requested that they not be shown in Karratha (but they can be shown anywhere else). The information thus censured concerned the levels of aerial pollution and stored explosive substances at Dampier, and the consequences of an industrial disaster on that basis. We complied fully with the request by the petrochemical company, as it is not our policy to oppose corporate entities. In our view the region's heritage issues are the state govern-ment's problem. Other than that, the response by local residents was uniformly positive and supportive, and many visitors commented favourably on the design and informative values of the exhibition, or offered support for the campaign to save the Dampier Rock Art Precinct.

After a week the exhibition was dismantled and taken to Port Hedland, a harbour town further along the coast, 240 km from Karratha. Here, the only suitable venue was the Gratwick Hall in the Civic Centre. This hall, measuring 24 m by 18 m plus a stage, offered another fine site for the exhibition. *Visions of the Past* opened in Port Hedland on 9 May 2005 and closed four days later. Visitation was weaker than in Karratha, but a public lecture about the purpose of the exhibition was also given to the Care for Hedland Environmental Association, on 10 May. Local media coverage of the exhibition and its general message, the need to protect and preserve Australia's largest cultural monument, was excellent in both Karratha and Port Hedland, consisting in total of four newspaper stories, two items on local television, and several radio interviews, particularly on ABC Karratha.

Bearing in mind that both Hedland and Karratha are relatively small, geographically very isolated towns, it is obvious that the exhibition achieved an excellent impact. Especially in Karratha, few residents would have been entirely unaware of the event, because we included in our promotion a letterbox drop (invitation card) that was received by all households. Combined with media reports, printed advertising (in four instances), banners and displays in several shopping malls, distribution of flyers and brochures at more than a dozen points, promotion was quite

The Dampier rock art exhibition in Karratha: school students were among the most keenly interested visitors.

comprehensive. Particularly encouraging was the attendance of many school classes. Without any input from exhibition personnel, teachers had prepared questionnaires for the students, listing eleven questions that prompted the students to study the exhibition closely so as to be able to answer all questions. We found this initiative particularly effective in securing the attention of young visitors. Another positive outcome is that, after viewing the exhibition, a number of Karratha residents decided spontaneously to facilitate our efforts by forming a support group or auxiliary group for the protection of the Dampier rock art precinct. Obviously, such a locally based support group will make our future work in the region, which includes research, inventorying and deterioration studies, significantly easier.

The Dampier rock art exhibition is to travel to venues in Australia and abroad. An Italian copy is being launched by Centro Studi e Museo d'Arte Preistorica in Pinerolo, by Professor Dario Seglie and his team. Other venues are being arranged, both in Australia and in various other continents. The exhibition details the plight of the Dampier Cultural Precinct, which includes the world's largest petroglyph concentration and Australia's largest series of stone arrangements. The Dampier site complex is under severe threat from an expanding petrochemical industry that could easily and more economically be established elsewhere.

The exhibition requires a floor space of approximately 400 square metres. It is a free public service, and is therefore provided free by AURA. This includes the provision of colour brochures, posters, postcards and transfers, and a curator. Preference is given to public venues that can be made available free of cost to AURA. However, consideration will be given to all offers as this education facility is of the utmost importance in generating public support for global rock art protection.

Please support this worthy endeavour by sending me expressions of interest in hosting this exhibition, with preliminary details of proposed venue and timing; and by visiting the Dampier website and signing the petition at

http://mc2.vicnet.net.au/home/dampier/web/index.html

Robert G. Bednarik
Convener and Editor, IFRAO

RAR 22-721

IFRAO PROPOSAL FOR THE DAMPIER ROCK ART

Preamble

In relation to the issues of the land management of the Dampier Archipelago, there may be considerable disagreement among the various stakeholders, but there appears to be one area of almost universal consensus: the ad hoc approach of the past forty-three years has resulted in conditions most of the relevant stakeholders define as unsatisfactory. There is no management plan for Australia's largest cultural monument, nor is there any effective protection of it. Nobody has any idea of how many more industries will be established in the Archipelago, if indeed any, yet there is massive development of infrastructure occurring now. At no stage has anyone attempted to articulate corporate aspirations along the entire north-western coast with any form of integrated resources management plan. For instance, the idea has been floated that the Western Australian (WA) natural gas pipeline grid be connected to that of eastern Australia, yet no blueprint for such an energy resources plan exists for WA. It is well known that there are great deposits of hydrocarbons offshore, along much of the coast, but there is no integrated plan of how they will be exploited most beneficially. It is particularly because of this unplanned, unco-ordinated and piecemeal approach that so many stakeholders are critical of the current policies, particularly those concerning the Dampier Archipelago.

This proposal is an attempt by an international NGO that has been deeply involved in similar issues abroad to initiate a debate intended to ultimately lead to the formulation of equitable solutions. Before addressing the possibilities of resolving the Dampier issues to the satisfaction of almost all, if not all the stakeholders, it is necessary to review the historical developments thus far,

and the principal problems with the existing approach. This is not intended as criticism for its own sake, but simply an attempt to explore the issues in order to determine common themes and areas of agreement. Interestingly, most of the stakeholders have many common concerns, preferences and mutually reinforcing positions. The lack of dialogue between some of them is therefore surprising, because there are obvious advantages in determining common goals and aspirations. This alone would go a long way towards resolving the main problems, some of which should be of extreme concern.

The stakeholders

First, the principal players need to be identified. They are:

1. *The indigenous owners*: The principal management issue at Dampier concerns the gradual destruction of the Dampier Rock Art Precinct. It comprises the world's largest concentration of rock art and Australia's largest collection of stone arrangements and sacred sites. All of this, undeniably, represents the traditional heritage primarily of specific local Aboriginal groups. Until now, they have had almost no voice in decision making, they have no title to the land, and they have received no apology or compensation for the series of massacres in 1868, perpetrated by the police at Dampier.
2. *The state government*: Consecutive state governments have commissioned a series of management proposals since the 1970s. None was ever implemented; instead the government has sought to develop the region's major commercial resources by inviting proponents and facilitating their operations. In 1996, in response to my requests to preserve the cultural monument at Dampier, the government of the day announced that all new industrial development would be at an alternative site, at Maitland Heavy Industrial Estate. However, the present government reversed this decision and reserved all suitable land at Dampier, 38% of the land area, for industrial purposes.
3. *The Commonwealth*: The national government of Australia has only limited influence, but it appears to be supportive of the calls by the Indigenes, the scholars and the conservationists for nomination of the Dampier precinct to World Heritage. Ideally, the area would become a National Park and be managed by the National Parks and Wildlife Service, which has the heritage management skills the state government lacks.
4. *The appointed land managers*: The remaining land at Dampier Archipelago, i.e. that which is not reserved for industrial use, is under the notional control of the Department of Conservation and Land Management. That body is severely starved of funds and support and currently lacks the resources and expertise to protect a world-class cultural monument. This is unlikely to improve unless there is public pressure.
5. *The environmentalist bodies*: These include the Greens and a number of NGOs involved in the preservation of the environment. Their principal objective is to preserve what is left of the natural and cultural values of the Archipelago, as well as of its landscape and aesthetic ambience. On the whole, the environmentalists have not expressed opposition to the exploitation of the economic resources of the Pilbara region, but they demand that this should occur in a well-planned fashion and without endangering the equally important other values of the area.
6. *The hydrocarbon processing proponents*: They include a few currently operating companies, primarily in the business of processing the offshore natural gas deposits, and a much greater number of potential future players of various sizes. Their installations can be established anywhere a gas pipeline can be taken to, but most of them also need ready access to port facilities. This industry presents considerable dangers to the rock art, because of its very substantial acidic gaseous emissions, and it also works with immense quantities of explosive, volatile and often highly flammable substances; therefore it is not in the interest of any such company (or any other stakeholder) to have similarly dangerous plants established nearby.
7. *The other major industries*: The principal other industries are concerned with the mining, processing and loading of iron ore, and with the production of solar salt. Provided that care is taken in locating their installations and developments, they seem to present no conflict with the interests of other resources of the region.
8. *The local communities*: The several local communities, mostly along the coast, have a variety of priorities. While in Karratha, Dampier and Port Hedland there is a shortage of skills, other centres suffer from chronic unemployment or have an under-employed workforce. The Karratha and Dampier communities are overwhelmingly in favour of effective preservation of the rock art at Dampier, and need to be concerned about the huge explosive power of the petrochemical industries as well as the high incidence of cancers, especially breast cancer.
9. *The scholars*: Their interests are represented by the Australian Rock Art Research Association Inc. (AURA) and, internationally, by the International Federation of Rock Art Organisations (IFRAO). They are biased in favour of custodianship by the Indigenes, and they demand that development be conducted without further destruction of cultural heritage.
10. *The heritage managers*: A number of state, national and international bodies are involved, among them the WA Heritage Council, the National Trust of Australia, the World Monuments Fund, ICOMOS and UNESCO. The first-named is at significant odds with all others, in that it systematically excludes indigenous cultural heritage from its responsibilities. All others demand effective protection for the cultural precinct of Dampier, including listing on the national as well as state registers of heritage sites, nomination of the precinct as a National Park, and nomination to the World Heritage List of UNESCO.

11. *The tourism industry*: Much the same is demanded by the fledgling tourism industry. The rock art and stone arrangements of the Dampier precinct are the core element of the local tourism industry, and while it is in an early stage of development, it should be noted that even without any significant infrastructure or promotion, the Dampier rock art is visited by about 40,000 tourists a year. Bearing in mind that three other, much smaller rock art concentrations in other remote parts of Australia attract up to 200 000 tourists annually, it is obvious that there exists great potential for a thriving tourism industry at Dampier. While this will not match the economic influence of the natural gas and iron ore industries in the short term, it may well be capable of supporting comparable levels of employment.

The problems

The perhaps most obvious problem concerning the Dampier Rock Art Precinct is the determination of the state government to place a dozen or so petrochemical plants within a limited area of land near Dampier. Already the area is the greatest single-location polluter of Australia, but the government's proposed three-fold increase in gaseous emissions will significantly accelerate the deterioration of the rock art through atmospheric acidification. It will not only 'bleach' the engraved rocks, it will devastate the sensitive endemic flora and marine fauna. More importantly, it will roughly treble the size of the stockpile of explosive, flammable, volatile and dangerous substances at Dampier. These include currently ammonium nitrate, hydrogen, liquid propane, butane, ammonia and light oil, totalling an explosive potential equivalent to 760 kilotonnes of TNT (or 58.4 Hiroshima atomic bombs). To concentrate such potentially destructive energy in one place is reckless, but to advocate its trebling while at the same time excluding adequate safety corridors between individual plants is an inexcusable planning blunder by the state government's agency, the Department of Industry and Resources. Its continuing refusal to accept that this was an error renders meaningful dialogue with the state government difficult.

Another very significant problem concerns the entirely anomalous view of the state's Heritage Council of what constitutes cultural heritage. Until April 2005, that agency was of the opinion that, in WA, 'heritage' refers to European heritage only. The heritage of Indigenous Australians or other people (e.g. the Macassans) was not considered to be part of the State's heritage. Notably, even in cases of non-British European heritage (such as the limited early Dutch history of the State), state involvement has often been appalling. It appears that the state heritage management agency's narrow definition of the term 'heritage' is at significant odds with that of any other country or state in the world. Under such anachronistic conditions of administering heritage legislation it is understandable that the massive Indigenous heritage values of Dampier were of little if any concern.

These two fundamental problems have been aggravated by the lack of continuity in any planning process in the entire Pilbara region. Development was generally proponent driven from 1962 to the end of the century, which obviously accounts for the substantial destruction of heritage sites, especially at Dampier. However, the recent trend towards government initiatives has only made matters worse. Not only has the destruction of heritage sites accelerated since the decision to defer the development of alternative industrial areas, much of it is now occurring in areas previously spared because of their high concentrations of rock art (e.g. at King Bay). Moreover, most of this destruction occurs in the course of quite unnecessary work. Especially the service corridors and new port facilities now being constructed by the government may never be used, as most potential proponents refuse to establish their industries at Dampier. Construction costs are considered too high on the rocky exposures, the flat land available is subject to occasional inundation by the sea and accessibility is relatively poor. The government, which is establishing the infrastructure specifically to entice proponents to Dampier, has in effect already driven most of them away. It threatens any company planning to construct new plants elsewhere in the region with punitive action (consider the example of BHP Billiton, their expressed preference for Onslow and the government's threats to that company). Thus the action of the state government, which is investing in the order of $200–250 million in Dampier infrastructure, is not only counterproductive, it is actually contrary to the interests of the very companies it is trying to entice to Dampier.

This is one of many examples of the effects of lack of consultation, and the rise of bureaucracy in the Pilbara. Practically all of the non-government stakeholders listed above are strongly opposed to the policy of the state government, and even the Commonwealth government would prefer to see the cultural resource management replaced by a system as it applies in the rest of Australia and the world. At least half the stakeholders are of the view that the state government is secretive and that the specific departments dealing with Pilbara development are dogmatic and poorly briefed.

There are countless further problems caused by the state government's bureaucracy, ranging from tendering policies to inadequate technical competence (a recent example being the faulty welding of an entire pipeline designated to convey a dangerous substance). But this is not intended as an exercise in apportioning blame; rather, it is intended to help resolve problems in macro-planning. Few would suggest that improvements should not be welcomed, and in their design it is essential that all the stakeholders have an effective voice.

Towards a solution

Significant improvements are in fact quite easy to implement, and some basic issues seem to be almost self-evident. For instance, it is obvious that the greater Pilbara region will be the economic powerhouse of WA at least for this century, and quite probably beyond. Similarly, the wealth of hydrocarbon deposits along the coast has obvious attractions to the rapidly growing economies of Asia, and it can safely be predicted that they will be increasingly utilised. It is essential that the exploitation of the wealth of the Pilbara

and nearby regions be undertaken within the framework of a long-term blueprint for the various industries operating in the Northwest, as well as those likely to do so in the course of this century.

An inventory of the known and predicted resources in the earth can be compiled fairly easily. A similar register of cultural and natural heritage sites and areas will be harder to establish, because of the relative neglect of this resource so far, but it is equally essential. As this information becomes available, resource infrastructures can begin to be designed, not on the basis of immediate needs, but on how the various resources can most economically be used, and within guidelines provided by the heritage managers. With the exception of the actual points of extraction (mines, oil or gas wells), all of the structures required for development (processing plants, loading facilities, towns etc.) can be located almost anywhere within the landscape. There are some considerations concerning the locations of ports, airfields, roads, pipelines, railways and water supplies, but on the whole, much flexibility pertains. For instance, there are hundreds of suitable locations for ports along the coast from Carnarvon to Broome, and either dredging or jetties are required in practically all places. The prime heritage sites, on the other hand, occur only at very specific features, taking up less than a thousandth of a per cent of the total land area of the Northwest. Therefore, with appropriate planning, it is perfectly possible to avoid significant detrimental effects on them.

At present there are three basic models of future development in the region:

1. The state government model: all industries are to be established at Dampier until there is virtually no room left there, at which point further proponents will be sited at Maitland.
2. The Maitland model: all new industries are to be located at this alternative estate, which measures 160 square kilometres, or about twenty times the size of the remaining land at Dampier.
3. The nodal model: instead of placing all new industries at either Dampier or Maitland, several nodes are to be established on a pipeline grid extending along the coast, each in the vicinity (within 20 or 30 km) of an existing town, including Karratha/Maitland, Port Hedland, Onslow, Exmouth, Carnarvon and Geraldton. Where appropriate, new population centres could be established as well. Each of these nodes would accommodate only one, two or, at the most, three plants.

The first model is by far the most problematic. It is impossible to implement without widespread further destruction of rock art sites and stone arrangements. The proposed trebling of gaseous emissions will correspondingly accelerate the destruction from acidic precipitation; the natural environment will be devastated. The enormous increase in explosive potential, both in overall size and density of installations, will present a realistic expectation of a mega-disaster, the largest man-made explosion in human history, with the attendant man-made tsunami. The latter alone, estimated to be 52 m high at 50 km from the centre of explosion on the presently stored quantities of chemicals, would have devastating consequences for many nations around the Indian Ocean, particularly the southern coasts of Indonesia. In that sense alone, the first model is realistically unacceptable to any party. Moreover, nearly all the approximately fifteen original potential Dampier proponents listed in 2002, which have since withdrawn or left the negotiating table, have rejected it. Because of the enormous problems with this plan, it is anticipated that the planned Dampier industrial estate will never be filled, and the current construction of infrastructure is in vain and a waste of public funds.

The second model, preferred by some of the proponents, offers considerable benefits. Maitland presents a huge area of land, very accessible, perfectly flat and free of surface rock exposures, all of it at least 6 m above sea level. There is negligible heritage value, and the port required can easily be built by skirting around the north-eastern shore of West Intercourse Island. The cost of the Maitland infrastructure, $106 million, is much less than half the equivalent cost at Dampier, and this level of saving can be extrapolated to the construction costs of the companies. Most importantly, even the government's plan admits that Maitland will be developed eventually in any case, so the expenditure of $200–250 million at Dampier is completely unnecessary and even under the government's plan a complete waste of money. The only obvious drawbacks of Maitland are that it will still draw on the resources of just one town, Karratha; that the source of emissions is still close to the valuable Dampier precinct (eventually, one would predict, in close vicinity of a National Park); and that the concentration of explosive industries would still be excessive.

The enormous benefits of the third model are obvious. The two other models are demographically, sociologically, politically and even economically undesirable. Why should the economic benefits from large-scale development only be available to one town, Karratha? The natural gas fields are distributed between Broome and Carnarvon, and it seems only fair that other towns in the region should share in these benefits. The nodal model would break up the otherwise enormous concentrations of both pollution and explosive powers, and thus sharply reduce both local emission levels and the dangers of a chain reaction of explosions. And with a reasonable level of forward planning, it would facilitate broad protective measures for the region's outstanding cultural heritage.

In a comprehensive long-term plan of this format, numerous further issues could be considered. For instance, is the proposal of diverting water from the Kimberley via the Pilbara feasible? Irrespective of its economy in Perth, it is very likely much more economical in the Pilbara, where both surface and aquifer deposits are not adequate to service a significant growth in population. Similarly, the establishment of a major natural gas grid would facilitate its connection, via a trans-continental pipeline to Moomba, to the eastern states. The Longford explosion (1998) and the two Moomba explosions (2001, 2004) have demonstrated the exposure of the economy to the severe effects of LNG plant failures. Thus in planning a statewide hydrocarbon policy it is advis-

able to consider the national perspective as well. It is from this base that the planning of individual projects needs to proceed, rather than from the often-vague preferences of the proponents themselves. Their aspirations probably exclude consideration of those of local communities, Indigenes or heritage values. Yet so far this has been the basis of all resource development in the region since 1962. But by the same token, the preferences of the companies have also been ignored by the state government, as those companies who have tried to establish themselves at Maitland have discovered. They were told that, if one or some companies were to be allocated land at Maitland before the Dampier quota was filled, "all others would want to go there too!" Thus the insistence of the government, best exemplified by its public brawl with BHP Billiton over that company's preference to be at Onslow rather than at Dampier, has already driven most proponents away. In short, it is primarily the state government that has retarded development, not because this is its policy, but because of the intransigence of certain parts of its public service and the refusal to address the issues discussed here.

The overriding feature of any future plans should therefore be that the government agencies should be facilitators rather than initiators of policies, and that the primary impetus must come from the other stakeholders. One of the most detrimental features has been the government's reliance on paid consultants that, generally speaking, are servants of the government and are obliged to translate its directives into policy details. The complete inability of NGOs to have any influence in this process is not just frustrating for them, it is also undemocratic and it adds to their perception of a dogmatic administration. It fuels discontent and excludes fair consultation. Replacing it with a process of due consultation would not just pre-empt public dissatisfaction, it would also result in more appropriate policies.

Discussion

If it were our intention to create the world's largest concentration of explosive and volatile substances, one of its largest pollution centres and a great deal of dissatisfaction among the stakeholders (particularly the Indigenous traditional owners, the scholars, environmentalists and heritage managers, but also, for different reasons, among the companies, local communities, tourism industry and Commonwealth agencies), then no change is needed and we can proceed according to the government's current plan. If improvements were preferred, the Maitland model would provide some relief and a temporary solution, in the sense that it would suffice for perhaps some decades. If we favour a long-term solution that finds the approval of all stakeholders, and will serve WA well for perhaps centuries, then an integrated nodal model is the only viable alternative.

To determine the various given factors, it would suffice to begin with a summit meeting of all stakeholders and request that they all provide the required data, ideas and proposals. Once all relevant resources (mineral commodities, hydrocarbons, water, natural and cultural heritage resources) are compiled, the relative timing of their development is known and other relevant factors have been established as far as this is possible, a blueprint for the continuing development of the Pilbara and nearby regions is likely to emerge quite naturally. Port locations can be determined; land can be assigned to one of several possible designations as is normal practice, taking care that there are adequate buffer zones between areas of incompatible designations (e.g. cultural heritage vs high-pollution plants, or urban areas vs explosive industries). At the same time, questions of co-ordinating this master plan with national energy planning can be addressed. The potential industrial players need to declare their individual intentions, the aspirations of the Indigenes can be accommodated, as can the concerns of population centres. Such care would prevent the disheartening loss of potential proponents of industry that we have so far experienced. Companies are not interested in establishing expensive installations where there are prospects of heritage-driven restrictions, or unforeseen land claims by Indigenous people, or submergence by a surge tide. They need to know all the factors that determine the level of profitability of an operation, but the current system tends to leave out many of these potential factors. The tourism industry of the region might be considered only a minor stakeholder, but it must be appreciated that the petrochemical and ore industries will only last a century or two. The rock art has survived for millennia, and if it were allowed to survive a few thousand more years, tourism would economically outperform mining in the long term. Moreover, it tends to provide far more employment relative to investment, therefore it should not be ignored at this stage. However, if we allow the country's largest monument to be gradually destroyed, as is currently the case, we will have pre-empted any possibility of including it in any future tourism plan.

The purpose of this proposal is to initiate the kind of constructive dialogue that we believe is required to determine an outcome that is satisfactory to all concerned. We thank you for reading this proposal, and for considering it in the same spirit as it is being offered.

Robert G. Bednarik
Convener and Editor
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This proposal is being widely circulated among the stakeholders identified in it, and to hundreds of other interested parties.

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