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EDITORIAL

The World Heritage List and rock art

The greatest problem with global rock art is its rampant destruction, which occurs throughout the world and is in most cases attributable to a lack of appreciation of the intrinsic values of this irreplaceable cultural resource. Most rock art researchers would agree that an effective strategy of enhancing the much needed protection and conservation of rock art is through improving public appreciation of its value and significance. Of all the potentially available means of accomplishing such improvements in the status of the world's rock art the perhaps most effective is through securing a more favourable representation of it on UNESCO's World Heritage List. This issue will be addressed here.

In a paper some years ago we had referred to the marked imbalance between the respective attitudes of researchers to French and Australian Pleistocene rock art. In France (and also in Spain) rock art research is conducted with a great emphasis on 'Palaeolithic art', whereas in Australia attribution to the Ice Age has been pursued only in a cavalier fashion. In the limited number of cases it was raised, it referred almost always to mistaken identifications of extinct megafauna species or their tracks (Bednarik 2010, 2013a; Welch and Welch 2015; Lewis 2017). Noting that there is far more Pleistocene rock art in Australia, and that all of it is of 'Middle' rather than 'Upper Palaeolithic' technological traditions, we observed that 'no scholar has investigated the Antipodean corpus with even remotely the zeal lavished on European Upper Palaeolithic art' (Bednarik 2008a: 179). Indeed, at the time there was not a single book or scholarly article dedicated solely to the Pleistocene palaeoart of Australia (that has now changed; Bednarik 2010, 2014a) and almost no literature on the pan-continental Pleistocene corpora of the remaining continents (but see now Bednarik 2013b, 2013c, 2014b). One of the referees of the 2008 paper, R. G. Gunn, posed a fascinating question: why is there such an incredible disparity between the appreciation of French and Australian rock art? It is in the answer to this question that one needs to look for the explanation why Australian rock art is being subjected to such extensive destruction, sometimes even from professional archaeologists (Bednarik 2006). The answer to Gunn's query is capable of revealing the direction Australian rock art researchers must take if they are to improve the status of their rock art. They must learn from their French and Spanish colleagues how these managed to so effectively project their concerns into the mainstream of society — which is something Australian rock art researchers have so far failed to achieve. The issue is of course complex and involves many factors, but it is

also reflected, *inter alia*, in the number of Pleistocene rock art sites on the World Heritage List. There are dozens listed from Europe, but not a single one from the rest of the world, which seems to reinforce the notion that Pleistocene rock art is a feature primarily or exclusively of south-western Europe.

Thus there appears to be a reciprocity between the perceived ranking of a cultural resource and its representation in the World Heritage List (WHL). The present imbalance is the result of misconceptions: the perceived value of Pleistocene rock art is determined by its great antiquity, yet archaeologists are largely unaware that rock art of similar or even greater age occurs widely outside of Europe. Most of the individual European rock art sites on the WHL, especially if the recently admitted seventeen Cantabrian sites are included, are listed for their Palaeolithic attribution — although, interestingly, the Côa valley sites and Siega Verde were included on the false assumption that they are of the Pleistocene (Bednarik 2009). The few non-Palaeolithic rock art sites of Europe on the WHL are the Valcamonica complex, the Levantine art sites in eastern Spain, and the Scandinavian sites of Alta and Tannum. By comparison, none of the extra-European sites are thought to be of the Pleistocene, or even likely to be so. Tassili n'Ajjer and Tadrart Acacus in the Sahara are certainly Holocene, as are the southern African sites Chongoni (Malawi), Drakensberg (South Africa), Kondoa (Tanzania), Matobo (Zimbabwe), Tsodilo (Botswana) and Ennedi (Chad). The same applies to the only American rock art sites on the List, Cueva de las Maños (Argentina), Nasca (Peru), Serra da Capivara (Brazil) and Sierra de Francisco (Mexico). Kakadu in Australia comprises only Holocene art as far as we know, as does Tamgaly in Kazakhstan. The Jabal Umm Sinman and Shuwaymis petroglyph complexes in Saudi Arabia are predominantly Neolithic and the Zuojian rock art complex in China is relatively recent. In the case of Bhimbetka (India), Pleistocene rock art is present (in Auditorium Cave; Bednarik 1993), but the nomination of the site complex made no mention of it (Ray and Ramanathan 2002a, 2002b).

This illustrates the deep misconceptions about the known global distribution of Pleistocene rock art. This phenomenon is far more common outside of Europe than it is in that continent, and particularly Australia harbours thousands of such sites. Moreover, while there is only one known site of rock art of a Mode 3 technological tradition ('Middle Palaeolithic'; cf. Foley and Lahr 1997) in Europe, *all* of the Pleistocene rock art of Australia, and even its early Holocene occurrences, are clearly of Mode

3 industries. Indeed, in Tasmania these continued right up to and beyond European contact; hence *all* Tasmanian rock art is technically 'Middle Palaeolithic'. This is well expressed by its similarity with that of the sepulchral block from La Ferrassie, France, and many other Pleistocene rock art sites. Very similar traditions extend even well into the Lower Palaeolithic period, in India and Africa (Bednarik et al. 2005; Van der Peer et al. 2003; Beaumont and Bednarik 2015), yet there persists an entirely unfounded belief that Franco-Cantabrian 'art' marks the origins of palaeoart and the introduction of symboling. This archaeological fantasy, one of several on the general subject, ignores the common occurrence of presumed symbolic productions (exograms, actually) up to hundreds of millennia before the advent of the 'Upper Palaeolithic'. Others include the belief that figurative art is cognitively more sophisticated than non-figurative (Bednarik 2003: 411), or that palaeoart was introduced by invading Africans who 'replaced' the resident population of European robust humans. The latter fallacy (Bednarik 2008b) coincides with the lack of evidence that any of the many early Upper Palaeolithic technological traditions are actually of anatomically fully modern humans. If the observation that most of the Upper Palaeolithic art in Europe is most probably by children and adolescents, based on the empirical evidence as it stands (Bednarik 2008a), is added to this list of misconceptions about Pleistocene palaeoart, the full extent of their consequences begins to emerge. The falsifiable proposition that this corpus is largely the work of young people coincides with the observation that figurative graphic art may be considered juvenile by traditional societies (Sreenathan et al. 2008), in contrast to the more 'adult', ceremonial non-figurative (aniconic) art forms.

None of these issues seem to be directly related to the WHL, but if it is true that there is a reciprocal relationship between perceived importance of a cultural resource and its representation on the WHL, this definable connection needs to be examined. In one direction, the priorities archaeology, especially Western archaeology, has created are reflected in what is sufficiently important to be inscribed; in the other direction, what is inscribed defines for humanity what is important. This has then two effects: firstly, it establishes relative cultural importance, and secondly, it determines the level of protection required — not only for the particular resource, but also for its generic type. It is therefore essential that concepts determining perceived significance be well informed and as unbiased as possible. That, however, is not apparent if it is considered that most prominent concepts held about Pleistocene palaeoart are false and based on shallow information and interpretation.

New initiatives by UNESCO

UNESCO has recently begun to appreciate the severe imbalances inherent in the World Heritage List's cultural section (Sanz 2008). In particular, the World Heritage Centre in Paris has accepted that the UNESCO World Heritage Convention faces several challenges (and opportunities) hardly envisaged when it came into force

in 1972. Most particularly, this concerns the *credibility* of the List. It is now recognised that two forms of over-representation on the List have emerged over the years: that of Historic¹ sites relative to pre-Historic sites, and that of European monuments relative to those of the rest of the world (Sanz 2008: Figs 4–6). Efforts have been made, with a little prompting from the International Federation of Rock Art Organisations, to render the future WHL more representative, balanced and credible. This revisionary view first emerged in the course of a conference held by UNESCO and the Musée national de Préhistoire in September 2005, during which we presented a case for the listing and protection of more extra-European rock art properties. This has led to a re-assessment of the processes of listing properties, culminating in a conference we held with UNESCO in November 2008 in Paris. It is considered necessary to not only increase the number of types, regions and periods of cultural property that are under-represented, but also to espouse the changes since 1972 in the concepts of what constitutes cultural heritage of *outstanding universal value*. This involves a shift in priorities, away from a primarily architectural perspective of 'monuments', towards a view that is anthropologically informed and of universal validity to a genus that has occupied this planet for a couple of million years. In that sense UNESCO now wishes to implement an action plan facilitating the nomination of insufficiently represented types of properties, i.e. pre-Historic sites, rock art sites, and sites related to human evolution (hominin find sites).

In reviewing the World Heritage List (851 listed properties in 141 countries in June 2008) there were only 77 sites that comprise, among their specific values, any pre-Historic elements. A further 170 such sites occurred on the 'Tentative List', which is of properties that have been nominated or are being considered currently for inclusion in the List. Nevertheless, this Tentative List still perpetuated the imbalances of the past, which include the near-absence of rock art sites from North America, Australia and Asia. At a rough estimate, these continents comprise between 70% and 80% of the planet's surviving rock art, and yet this was represented by merely seven sites nominated for their rock art. There were several glaring regional absences among the rock art sites listed. The huge corpus of Middle Eastern rock art, comprising the Arabian Peninsula and extending into Iran and Pakistan, was unrepresented. Those of the Sahara and India were underrepresented (three in total), while eastern Asia and Siberia provided no examples. In the rock art-richest country, Australia, only one property has been nominated for its rock art, although there is so much rock art that its incidental occurrence in properties nominated for other reasons has been noted (Blue Mountains, Purnululu, Uluru-Kata Tjuta). However, the largest rock art concentrations of the country, such as those in the Pilbara and Kimberley, are not represented.

There are also notable chronological trends. For

¹ In this paper the term 'Historic' is capitalised when it refers to a specific historical period of time defined by a minority of humanity using an untestable criterion to determine reliability of transmission, such as the introduction of writing; see also 'pre-Historic'.

instance, not a single pre-Historic site from the Arab States has been inscribed in the period from 1985 to 2000; and seven out of the ten pre-Historic sites of Africa were only inscribed since 1999. And there remains a great over-representation of 'architectural' monuments or whole towns of relatively recent periods, especially from Europe. On the other hand, prime candidates such as the hominin sites of Bilzingsleben and Dmanisi remained unlisted. The new initiatives being introduced by UNESCO promise positive changes in the priorities determining inscriptions on the List.

Traditional bias

All properties proposed for World Heritage listing need to be nominated by national governments, and it is reasonable to expect that such nominations are likely to reflect the priorities, views and philosophies of those governments. Inscription of a property tends to lead to significant increase in its visitation and in its potential to attract international as well as domestic cultural tourism. Indeed, there have been instances of such great changes in visitation patterns that soon after inscription, governments have had to impose tourism quotas. For instance, the rock art complex of Bhimbetka (India) attracted almost no visitors before its inscription in 2003. But within a year of it, the number of visitors had to be limited to 1600 per day because of overcrowding of the available area of visitation. Needless to say, tourism potential is a prime consideration of governments in submitting properties for listing, and rightly so. On the other hand, inscription of a property confers an international 'seal of approval' — not just of the specific site, but of the particular universal values for which its nomination was made and accepted. The effect of this process on the public's perception of the importance of cultural features is profound, and is indeed one of the most significant outcomes of inscription. It literally shapes public attitudes, and in that sense the WHL provides to UNESCO a means of shaping public sentiment about what is of profound importance and what constitutes universal cultural value.

In practice, however, there can be significant differences between the priorities of governments (and the lobby groups that may be the drivers of nominations) and those of any endeavour to create or maintain *objective universal values*. If the process is driven primarily by the member states — the nominators — then it is to be expected that distortions will inevitably occur. Any asymmetries repeated many times would amplify systematic biases. This factor was very probably involved in creating the imbalances in the current WHL. The question then arises: to what extent should UNESCO guide the member states in order to achieve maximal representation of *objective universal values*? This issue, clearly, is the crux in any endeavour to correct the imbalance in the WHL, and to render it representative in the sense of the intent of the original *Convention concerning the Protection of the World Cultural and Natural Heritage*.

This imbalance applies to the themes, to representation of geographical regions as well as chronological

entities and it has been recognised by UNESCO for many years. On 20–22 June 1994, an expert meeting was held in Paris on a global strategy to 'fill the gaps' and to render the WHL more representative (UNESCO 1994). It was already then noted that Historical periods were significantly over-represented at the expense of pre-History (the latter being the significantly longer period of human history), and that Europe was greatly over-represented in relation to the rest of the world, especially some specific regions. This meeting recommended that these imbalances be corrected by increasing the number of properties of specific types, regions and periods that are under-represented. It also noted that the conception of cultural heritage had changed with time and it advocated the adoption of new concepts of this idea, in accordance with developments of knowledge and 'scientific thought', especially in anthropology. In particular, it was thought that the architectural notion of monuments or sites of importance needed to be reviewed in favour of a more universal construct of such cultural values.

It is very probable that these same issues do not apply — or apply only at a much diminished level — to the natural heritage properties also covered by UNESCO's convention: there is probably much greater consensus here about what constitutes *universal values*. In the cultural sphere, a wider scope for differences needs to be anticipated, because any society, at any point in its history, will develop biased viewpoints about what is of the utmost cultural importance to it. Cultural heritage, through its very nature, can become the subject of biases of political, religious, ethnic or cultural nature. In extreme cases, this may be expressed in the dynamiting of giant Buddha statues in Afghanistan (the very event that prompted UNESCO's *Declaration concerning the Intentional Destruction of Cultural Heritage*, 17 October 2003), the deliberate shelling and destruction of a listed property in Dubrovnik (Croatia), or the more recent destruction at Palmyra (Syria).

Why pre-Historic properties are better candidates

This leads to the heart of the issue. An underlying role of the United Nations is the resolution of conflicts caused by the existence of nation states, ethnic groups and religious beliefs. These are expressed in numerous disputes over cultural sites, over their ownership and their utilisation. Such discord can be of a considerable range, but it inevitably involves monuments or sites of what is ethnocentrically perceived as History, i.e. of recent centuries or millennia. In extreme cases such conflicts can lead to great bloodshed, they can be a justification for war or other armed conflict, for the persecution of ethnic or religious groups, and for pursuing nationalistic agendas. Even when such extreme forms of encouraging conflict are not evident, the submission of any 'historical' property to the WHL is inevitably connected to nationalistic, chauvinistic or jingoistic sentiments (Bednarik 2015): nation states seek to enhance the importance of their History or the legitimacy of their historical narrative; they strive to increase international tourism to their countries; or they seek to emphasise the splendour of their nation's

History.

None of these impediments to objectivity can apply in any great measure to pre-Historic cultural sites. While they, too, are located on the territories of nation states, rather than referring to the grandiose histories of the submitting states they signify achievements of all humanity. Indeed, they counter nationalistic preoccupations with the acceptance that all great human achievements bear witness to universal qualities of humanity. Rather than being available to serve nationalist aggrandisement, properties such as ancient rock art sites or sites of hominin finds serve to emphasise that the nation state merely *manages* them on behalf of all of humanity. Compared to those of pre-History, cultural monuments of History are more likely to be divisive, be it on religious, racial, political, ethnic or nationalistic grounds. The vehement claims by competing factions, be they of religious fanatics and fundamentalists, extreme nationalists or any others of such dispositions, are socially and politically divisive and thus contradict the ideals of both the United Nations and the UN's educational, scientific and cultural agency, UNESCO.

From the perspective of these international bodies it is therefore particularly counterproductive to have such an overwhelming majority of Historic properties on the WHL, especially when we consider that History amounts to less than a quarter of a percent of the duration of human history. Similarly, the domination of European properties on the WHL needs to be seen against the size of that continent, which accounts for only 6.6 percent of the planet's land area. Clearly the WHL is unrepresentative,

Eurocentric and tends to serve nationalistic goals. The obvious remedy is to discriminate henceforth in favour of sites and monuments that are not in Europe and that celebrate pre-Historic rather than Historic achievements or features. It is for that reason that UNESCO has developed a preference, in WHL submissions, for nominations of rock art and hominin find sites. It will, however, take many decades to correct the imbalance and achieve a semblance of representativeness of the WHL.

The way forward

Of particular importance is UNESCO's finding from its 1994 meeting that the weakness of nominations of rock art sites is often the inadequate documentation and analytical criteria provided for a broad comparative assessment. The rock art specialists of the world, comprising the membership of the affiliates of the International Federation of Rock Art Organisations (IFRAO), certainly need to take note of this criticism. In the future, nominations from extra-European continents, and most specifically those concerning rock art properties, need to be well prepared, well researched and well presented. Past attitudes, such as those that led to the nomination and inscription of sub-modern petroglyph sites as 'Palaeolithic' (e.g. Côa and Siega Verde; see Bednarik 2009) need to be abandoned. But by the same token, the mediocre research standards of other past nominations also need to be acknowledged. This is not a responsibility of UNESCO, or of the nominating member states; it is squarely our responsibility as rock art researchers.

Solving the Dampier controversy

Finally, to a topic that is particularly close to the editor's heart. The present issue of *RAR* contains an important article by John L. Black, Ilona Box and Simon Diffey, addressing the involvement of government-employed scientists in whitewashing the damage to Dampier Archipelago rock art caused by industrial emissions. Although some of the Murujuga rock art in Western Australia has recently been protected by a National Park at our insistence, this is little consolation to the Indigenous owners of the Dampier cultural precinct or to anyone treasuring cultural heritage. At the present rate the industrial emissions on the island will inevitably destroy the petroglyphs. The Black et al. paper reviews the evidence that the study intended to evaluate the prospects of the rock art to survive in the long term has been botched. Conducted at huge expense from 2002 to 2016, this study has provided absolutely no data about the deterioration or prospects of the Murujuga rock art. The industry and the cultural monument to the massacred Yaburara simply cannot coexist, because of the immense acidic pollution by industry. Since the rock art is immovable it is essential that the industry be relocated.

The recent Australian Senate inquiry into the protection of the rock art of Dampier Archipelago in Western Australia has established that the Commonwealth Industrial Research Organisation (CSIRO), the govern-

ment's scientific agency, has for many years failed in its attempts to establish whether the rock art is being degraded by the area's massive industrial emissions into the atmosphere. It has used a methodology that is entirely unsuitable to monitor rock surface deterioration, Johan Kuylenstierna from the Stockholm Environment Institute has testified. The CSIRO study had been based on his work (Cinderby et al. 1998). A co-author of it is also Frank Murray, the Chairman of the Burrup Rock Art Technical Working Group (BRATWG), under whose aegis the CSIRO study was conducted. This suggests that Murray did not understand the irrelevance of the paper he co-wrote to the project of assessing the destruction of rock art. Kuylenstierna's global maps from the UN's Food and Agriculture Organisation are immaterial to the CSIRO's task of studying weathering processes on the Dampier rock surfaces. Former assistant divisional chief, John Black, has disclosed that CSIRO's advice to government and industry has been wrong and was based on fundamental failure of method (Black et al. 2017). Ian MacLeod of the Western Australian Museum has confirmed our findings for the past 15 years (Bednarik 2002), concerning the significant increase in acidity of both the rock surfaces and the rainwater. In February 2017, the CSIRO conceded 'that it had never undertaken any assessment of the capacity of the Bur-

rup rocks to cope with acid deposition from industry' (Strom 2017), when this very subject was the sole reason for its work and the sole justification for the existence of the BRATWG. The CSIRO then withdrew from the project.

Executive responsibility for the program rests with BRATWG, now also disbanded, after we wrote as Convener of the International Federation of Rock Art Organisations (IFRAO) to its Chairman, Frank Murray, suggesting that he discontinue his involvement. The previous time that IFRAO had contacted Murray was 13 years earlier, in response to his proposed measures of monitoring the Dampier rock art. IFRAO then described Murray's proposal as a recipe for failure (Bednarik 2004, see also <http://www.ifrao.com/failure/>). As that assessment shows, the fiasco of the BRATWG program had been predicted many years ago, and the long delay in confirming it is certainly regrettable. It has also been known for a decade (Bednarik 2007a, see also <http://www.ifrao.com/wp-content/uploads/2014/06/CSIRO.pdf>) and was confirmed by the CSIRO's own technicians that the precipitation pH at Dampier had fallen from above pH 7.0 in the 1960s (Bednarik 2002) to as low as pH 4.3 (CSIRO 2006: Table 13a) over 10 years ago. If Professor Murray does not understand that the solubility of minerals is a function primarily of pH, he has had ample opportunity to inform himself better, particularly after he received IFRAO's letter of 14 August 2003, which already then explained that he had misunderstood his brief. It ended with this note: 'I have to advise you that we regard much of your proposed list of works as a waste of taxpayer's money. Most certainly, the issue of the deteriorating rock art of Murujuga will not be solved, or even illuminated by these endeavours'.

The question arising from all this is: were the members of the BRATWG and the CSIRO researchers involved genuinely unaware that their brief was to establish whether the industrial emissions at Dampier are harmful to the rock art? Is that why they instead investigated the air quality and found it was better at Dampier than in some south-east Asian cities? That seems hardly possible, so it needs to be asked why they avoided so consistently to allude to the rock art deterioration, and why they used two instruments to measure colour changes that were both unsuitable (BYK-Gardner spectrophotometer model 45/0, catalogue number CB-6807; and the Konica Minolta CM700-d spectrophotometer). As a much more credible explanation for avoiding the subject of rock art deterioration, political compliance or expediency is considerably more realistic, especially in view of the CSIRO's long history in this subterfuge. Although CSIRO's strategic plan states 'we are committed to scientific excellence and working ethically and with integrity in everything we do', its management is dominated by political conformity rather than concerns about ethics and integrity (Beeby 2007; Borgas 2006; Cribb 2010; Popovski 2010; Whitten 2002, 2006; and many others). In particular, the CSIRO has been shown to be in league with powerful corporate interests (e.g. Spash

2010) and numerous CSIRO scientists have been sacked or cautioned over expressing concerns about CSIRO policies (e.g. Tim Adams, Sylwester Chyb, Susan Clark, Liming Dai, Calum Drummond, Barney Foran, Roger Francey, Neil Furlong, Hans Griesser, Ruth Hall, Peter Hudson, Trevor McDougal, Graeme Moad, Graeme Pearman, Barrie Pittock, Fred Prata, Warwick Raverty, Enzo Rizzardo, Tony Schlink, Clive Spash, Maarten Stapper, Chris Strauss, Gerhard Swiegers, Colin Ward). In fact the attrition rate due to 'involuntary separation' during 2001–2009, amongst the most highly-cited scientific group leaders in the Molecular and Health Technologies Division, is said to have been 45%–55%.

This incongruous corporate culture of CSIRO also seems to have determined the course of the Dampier rock art monitoring project, as indicated by the pattern of individual scientists speaking out against management in that case, and the accountability of CSIRO to the powerful resource companies operating at Dampier. The latter contributed significantly to the substantial costs of the long-term study. Such an unhealthy relationship is not different from that between the tobacco industry and a purported research agency that is paid by the very lobby whose effects it supposedly investigates. Such research is as bogus as is the CSIRO's investigation into the deterioration of Dampier rock art; it should be ignored. CSIRO has been paid by the companies and has acted on their behalf. These are the same companies that have wreaked havoc on the Dampier rock art by destroying sites or removing petroglyphs from them since the 1960s (Bednarik 2002, 2006, 2007b). This deception of all stakeholders has been correctly predicted in 2004 by stating that the BRATWG study

is not an attempt to resolve the issue, but a political whitewash and a measure to procrastinate further. I predict that the results of this project in 2008 will be inconclusive and unreliable, and that the main finding will be that CSIRO will require further funding to continue the work. Meanwhile the government expects to continue its destruction of the Dampier rock art, bulldozing many more sites, and permitting the huge petrochemical industries to belch out ever more acidic emissions, at the rate of tens of thousands of tonnes per year (Bednarik 2004).

Precisely as predicted, funding was sought and received for another eight years in 2008, whilst large-scale rock art destruction continued unabated. In 2017 the rock art monitoring project not only remains inconclusive. It has now been abandoned, having produced absolutely nothing to clarify the prospects of the rock art to survive, as detailed by Black et al. in this issue of *RAR*. We are still in the dark about the effects of the industrial emissions by Rio Tinto, Northwest Shelf Gas, Pluto LNG and Yara Pilbara Nitrates on the Dampier monuments because no data for defining those effects have been collected by the *deliberately mismanaged* monitoring project. The buffering (acid neutralising) capacity of the Dampier rocks (Bednarik 2007b) has never been ascertained and a new, properly based and industry-independent study is now required to help preserve the

rock art (Black 2017). The substantial funding for the BRATWG study was therefore entirely in vain. Besides the contributions from the resources industry, the spurious monitoring program was also funded by the Western Australian Government. The industries operating at Dampier can be assumed to be satisfied with the procrastination characterising this program, because it facilitated their unimpeded emission of hundreds of thousands of tonnes of acidic substances and particulate matter (see <http://www.ifrao.com/dampier-fact-sheets/>) for the past fifteen years. Therefore they would have regarded the cost to them as a justifiable expense. The contribution of public money to this scientific pretence is a different matter and much in need of public scrutiny.

This is not the first time that the sorry state of the preservation of the Dampier cultural precinct, said to include the largest concentration of rock art in the world, has been defined. A review of the cultural heritage management practices in Western Australia (Bednarik 2013d) provides some of the relevant background to the endemic issue. Tasmania and Western Australia are the two states of Australia that struggle with coming to terms with their responsibilities of managing Indigenous cultural heritage. Premier Jim Bacon called for public submissions to review the Tasmanian Aboriginal Relics Act 1975 in 1998, yet twenty years and several incidents of Tasmanian rock art vandalism later we are still saddled with a severely racist legislation in that state, and no solution on the horizon. In Western Australia we have just witnessed the scandalous disregard for the World's largest rock art monument. How does this abysmal performance compare with other countries? For instance the United Kingdom has recently decided to spend £1.4 billion to construct a 2.9 km long tunnel on the A303 road in England near the Stonehenge monument, designed simply to improve the ambience of the area and 'protect the landscape' of the 25 sq km site. France has spent almost \$A200 million on the preservation of just two rock art sites, Lascaux and Chauvet caves. Much the same can be said about other developed countries. Yet the Western Australian government has spent hundreds of millions of dollars on infrastructure to attract heavily polluting industries to Dampier, increasing acidity. Its advisory bodies, BRATWG and CSIRO, have facilitated significant worsening of the threats to the rock art. In the process of creating service corridors and allowing the establishment of new industries the government has levelled numerous petroglyph and stone arrangement sites. In this it has not only contravened the UNESCO *Declaration Concerning the Intentional Destruction of Cultural Heritage*, to which Australia is a signatory; it has consistently continued the large-scale cultural vandalism begun in the mid-1960s.

This raises the question of how it came to this predicament. In 1963, the Dampier Archipelago, which contains no economic resources of any kind, was completely unoccupied and pristine. The mining industry was looking for a harbour site to ship out iron ore from

far inland, and an island to the east, Depuch Island, was suggested as a potential site. In response the Western Australian Museum conducted a study there, discovering about 5000 petroglyphs. It also examined Dampier Island (now Murujuga) and found only 200 petroglyphs (Crawford 1964: 56), which prompted the mining industry to opt for Dampier. Three years later we commenced a survey of Murujuga rock art and found thousands of stone arrangements and hundreds of thousands of petroglyphs (Bednarik 1973, 1979, 2006, 2007b). Witnessing numerous incidents of heritage destruction, we have since 1969 been engaged in efforts to preserve the Dampier monuments. When we sought the help of the Western Australian Museum in 1969, it instead issued permission to Dampier Salt to destroy the two largest single concentrations of rock art at Dampier (Gum Tree Valley and Skew Valley). Not only is the botched impact study of that institution the sole reason for the Dampier predicament; the Museum then contributed significantly to rock art destruction on Murujuga. It needs to be appreciated that there would have been numerous alternative sites for a harbour along the then almost entirely uninhabited northwest coast. So far, an estimated 95000 petroglyphs and hundreds of stone arrangements have been destroyed on Murujuga. It is the bungle of the initial impact study that lies at the root of all subsequent tribulations of the Dampier cultural heritage precinct, and it is responsible for the continuing disputes: the monument simply cannot co-exist with industries belching out hundreds of thousands of tonnes of pollution each year. And all that we now have to evaluate the future of the Dampier monument is a 15-year slipshod study by the CSIRO that only served to prolong and expand the exposure of the sites to the industrial emissions. Therefore it is fair to say that the incompetence of the relevant authorities has continued unabated from the 1960s to the present. In the case of the Yaburara, the creators of the Dampier monument — the subject of a genocide perpetrated in a series of massacres in 1868 (Bednarik 2006) — this is truly a case of adding insult to injury. It shows that after 150 years we remain, as a nation, bereft of civilisation.

There is only one pathway to correct the long sequence of genocide and heritage management blunders at Dampier. The present efforts to secure the monument's nomination to the World Heritage List will not solve the issue. The monument cannot coexist with the industry, and since the monument is, by definition, immovable, it is the industry that has to be relocated. That has been apparent all along; the stumbling block is precisely that the state government is probably responsible for the huge cost involved. It has presided over a long history of mismanagement that needs to be corrected. On the bright side, the relocation of the Dampier industries to a suitable location would itself become a major industry, providing tens of thousands of jobs and thus improve the economy of Western Australia. The enormous expense involved would also teach the state government that, ultimately, it is responsible for its blun-

ders. That would be a very valuable lesson, certainly worth the expense in our view.

Note: for detailed information about the entire history of the Dampier controversy visit <http://www.ifrao.com/history-of-the-dampier-issue/>.

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