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17 Graffiti, Vandalism and Destruction: Preserving Rock Art in a Globalized World

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Abstract

In our globalized world access to rock art sites is unprecedented. But despite awareness campaigns, education about the universal value of rock art, global media attention and the efforts of those who manage rock art sites, purposeful damage to rock art imagery and the landscapes it is a part of continues at an alarming rate. There are many reasons for this, including ignorance, indifference, iconoclasm, racism, political motivations, and economic priorities. It also has been observed that 'marks attract marks' so for some people there is a compulsion to leave one's own mark at rock art sites because previous people have done so. Indeed, new graffiti at rock art sites, unless quickly removed, can soon lead to a growing number of incidents. To further complicate things, Indigenous interactions with rock art sites can sometimes lead to new mark making construed by others as a form of vandalism. After summarizing why rock art is important in today's globalized digital world, the history of purposeful damage to rock art sites is briefly reviewed before recent case studies from Australia and elsewhere are discussed. New strategies for preventing graffiti and vandalism at rock art sites, are then outlined. It is concluded that our global rock art heritage needs to be valued as a part of living culture rather than archaeological artefact in order to best conserve it for future generations.

Keywords

Graffiti · Vandalism · Australia · Superimposition · Living heritage · Management · Conservation

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17.1 Introduction

Rock art, consisting of paintings, drawings, stencils, prints, engravings, bas relief and, in northern Australia, figures made of beeswax, is found on every continent except Antarctica. Rock art was made at least 45,500 years ago in Sulawesi, Indonesia (e.g. a painting of a pig; Brumm et al. 2021) and up until the late twentieth century in some parts of the world, including at many locations across Australia (e.g. May et al. 2019; Taçon et al. 2012, 2021). The oldest hunting scene globally has been dated to at least 43,900 years ago (Aubert et al. 2019), while some hand stencils and further figurative paintings from Sulawesi and Kalimantan have a minimum age of 40,000 years (Aubert et al. 2014, 2018b). Paintings and stencils in Europe, at places such as Chauvet and Cosquer, France, are up to 35,000 years old (Quiles et al. 2016; Valladas et al. 2017) and some cave paintings in Spain have been argued to be about 65,000 years of age (Hoffmann et al. 2018) but there is debate about both reliability and significance (e.g., Aubert et al. 2018a; Slimak et al. 2018; White et al. 2020). The oldest reliable evidence of Pleistocene rock art in Australia is a painting of kangaroo in the Kimberley region of Western Australia dated to between 17,100 and 17,500 years ago (Finch et al. 2021) but there is likely much older surviving rock art within and beyond the Kimberley.

Across Australia, rock art remains a fundamental part of Indigenous living culture (Taçon 2019) and across the world has contemporary relevance (Brady and Taçon 2016). This is encapsulated in the mission statement of the Rock Art Network, an international group of 40 rock art experts from 18 countries raising awareness about why rock art is important and relevant today. They conclude that 'This fragile and irreplaceable visual heritage has worldwide significance, contemporary relevance and for many indigenous peoples is still part of their living culture. If we neglect, destroy, or disrespect rock art we devalue our future' (Agnew and Deacon 2022, viii).

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Despite this, world rock art is under threat from a range of natural and human forces (Agnew et al. 2015; Darvill and Fernandes 2014; Marshall 2020; Marshall and Taçon 2014; Rosenfeld 1985; Taçon and Marshall 2014; Thorn and Brunet 1995), with cultural impacts having the most devastating affects but also possibly easier to manage. Even the ancient rock art of Sulawesi is being impacted by graffiti and industrial development (Taçon et al. 2018) but graffiti is one of the biggest growing problems worldwide as access to rock art sites for tourism and industrial and urban development accelerates. And as Jannie Loubser states 'Unchecked, graffiti can cover in a short period entire rock art panels that have survived millenia of destructive natural agents' (Loubser 2019, 1).

Keegan (2014, 4–5) provides a useful definition of graffiti as 'markings done on private or government property without formal or tacit consent and, hence, not endorsed by the broader society' and discusses its long history. David and Wilson (2002, 43) argue that 'graffiti is imbued with a polluting and vandalistic quality irrespective of its decorative potential. It threatens the status quo not just because of the words or images written, but by the fact that its execution in public spaces lies outside the control of existing social forces'. But Frederick (2009, 212) provides one of the most comprehensive yet succinct definitions of graffiti:

> Graffiti in the broader contemporary context is a complex mark-making phenomenon, that may be seen as a kind of drawing or painting and, because it commonly employs language text, also as a kind of writing. Its sculptural forms and intervention in the surface textures and appearance of buildings make it an element in the liquid architecture of a mutating metropolis. However, the term 'graffiti' is most often applied to any form of unsolicited marking. Graffiti is generally understood as text and/or images that is made in shared spaces where it is generated and viewed publicly, be that a privately owned building, public transport or an alleyway. It is otherwise difficult to characterise graffiti because it is a mode of expression and communication which comprises a vast array of media, technique, subject matter, form, and meanings. Yet despite the fact that people 'do graffiti' in different ways for different ends, it is most often typified as an act of vandalism or anti-social behaviour.

Some of the oldest graffiti at rock art sites is in France and dates to the 1600s at sites such as Niaux Cave (Fig. 17.1), while in Australia a large number of rock art sites have graffiti from the late 1800s and early 1900s associated with early explorers and settlers of European descent. Graffiti at rock art sites usually consists of names, dates, scratches, expressions of love or hate and occasionally pseudo/imitation Indigenous rock art (see Gray Rock example below), deliberately placed alongside or over traditional rock art, as well as elsewhere within a site. Intersections between rock art and graffiti have begun to be explored in various ways (e.g. Frederick 2018; Frederick and O'Connor 2009) but graffiti at rock art sites, and the motivations behind it, has rarely been explored in detail.

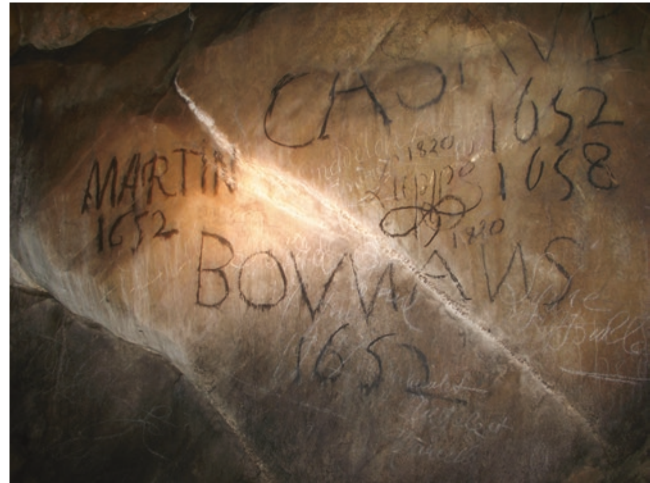

Fig. 17.1 Graffiti from the mid-1600s to the early 1800s in the passageway that leads to the rock paintings of the Salon Noir, Niaux cave, France. (Photograph: P. Taçon)

17.2 Why Rock Art Is Important for Indigenous Australians

Across Australia, First Nations people explain that their rock art continues to be an integral part of contemporary culture rather than an archaeological artefact. Their views often differ from those of archaeologists and heritage managers, although there is some overlap (Taçon 2019, 10–12).

> Rock art sites, sacred sites and other places of significance anchor Indigenous people in landscapes created by powerful Ancestral Beings that are at the same time cultural, natural and spiritual. These places are fundamental for contemporary Indigenous culture and the well-being of both individuals and communities… for Indigenous Australians they are more than heritage places and places of history because they are charged with old and new stories, ancestral connections and meaning. They reinforce notions of cultural survival and are proof of Indigenous ownership of land. They are places of knowledge, spirituality and experience that shape Indigenous identity. Rock art sites are important places for teaching tradition, law and lore. They are about story, song and dance; ritual and ceremony. … They are priceless inheritance but also cornerstones of contemporary culture (Taçon 2019, 12).

Rock art sites are places where Indigenous people connect with their ancestors, recent and ancient. Because of this they have to be cared for in both traditional and Western scientific ways so they are safeguarded for future generations (Williams et al. 2019). If sites are vandalized with graffiti, or in any other way, Indigenous Australians can feel not only great sadness, anger and disgust but also be physically ill (see various examples in Taçon 2019, 2021).

17.3 Is There Indigenous 'Graffiti'?

Indigenous graffiti is extremely rare at rock art sites although some people have argued very contemporary rock art production over earlier images is a form of vandalism (e.g. see Chaloupka 1992; Clarke and Randolf 1992; Ward 1992). Indigenous graffiti occurs in other contexts, including on road signs (e.g. Ralph and Smith 2014) or other surfaces (Frederick 2018), often as a form of protest. One morning in April 1992, while recording petroglyphs in Roma Gorge, central Australia, I came across a boulder with names, numbers and a date pecked into the rock. 'Oh, what a shame' I thought to myself—but at least this was the only instance of 'graffiti' amongst thousands of traditional designs such as bird and animal tracks, circles with pits, concentric circles, other non-figurative designs, hooked boomerang designs and other motifs typical of the region on 112 engraved faces spread over a distance of 434 metres (Taçon 1993, 119). Roma Gorge is associated with two family groups and during a few days of recording senior Traditional Owners of each family, Herman Malbunka from Ipolera Outstation and Max Inkamala from Hermannsburg, would join me for part of each day to interpret the art and to summarise their association with it. 'Herman Malbunka's family is associated with the south side of the gorge while Max Inkamala's family has always maintained the north side. In the past the two families would share food, ceremonies and access to each other's land on a permission basis with the un-engraved section understood to mark their common border' (Taçon 1993, 120).

When Herman and Max arrived later in the day I showed them the boulder with what I thought was graffiti, three names associated with numbers—Bertram 27, Kenneth 25, Donald 33—and a date, 1948 (Fig. 17.2). I told them how disappointing it was that someone had done this but they chuckled and said it was not done by non-Aboriginal vandals. Bertram Enata, Kenneth Enata and Donald Lambarba were from the Hermannsburg Mission and the numbers next to their names were given to them by the missionaries. These numbers were put on all their school clothes, books and other belongings, part of an imposed new identity, along with European names. Herman told me he was number 8, while Max said he was 22. They were friends with Bertram, Kenneth and Donald and said they must have visited in 1948 and used a traditional pecking technique for their inscriptions. In the past, people from the surrounding area would visit Roma Gorge for various reasons, including for food and water but also for ceremonies. They would leave marks of their identity behind in the process, including tracks of their totem animals. Thus, for Herman and Max the boulder did not have graffiti but instead reflected the new identities their people had been given at the mission.

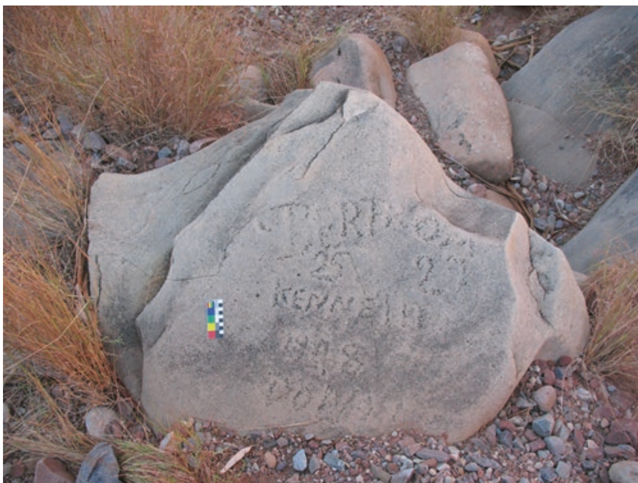

Fig. 17.2 Roma Gorge boulder, central Australia, with what was presumed to be graffiti. (Photograph: P. Taçon)

Aboriginal people have incised, written or painted their names at various sites across Australia, including at one site in Kakadu National Park where the artist, Narlim, painted his name inside the hull of a ship he had painted (May et al. 2021). In North America there are also instances of First Nations people adding names to rock art sites. Jannie Loubser, while undertaking rock art conservation, found that 'At Writing-on-Stone, Alberta, Canada, for example, Blackfoot medicine people incised their names next-to earlier biographic incised drawings. Had it not been for consultation with Blackfoot elders, the names of their predecessors might have been removed in error' (Loubser Pers. Comm. 3rd March 2020 via email).

These examples indicate that Indigenous people made text-based inscriptions at rock art sites that could be interpreted by etic observers as graffiti/vandalism. However, David and Wilson (2002, 42–43) suggest inscriptions 'are an assertion of a right to be-in-place, inscriptions represent a resistance to sociographical exclusion'. The colonisation of Australia and North America meant increasing exclusion from traditional places for Indigenous people as well as shifting identity and the adoption of script-based marking, especially post-missionisation with children taught to write English. When people were able to return to important rock art sites often new rock art imagery was added that reflected traditional or new experience and identity, often 'to combat European colonialism' (McNiven and Russell 2002, 36). Sometimes this included new ways of marking places via text and numbers. In other words, 'Aboriginal people across Australia were active participants in change, mediating their interactions with outsiders in innovative ways, as well as continuing traditional practices while reaffirming connections to place' (Taçon et al. 2012, 433).

However, whether additions, alterations or obliterations of rock art are instances of vandalism/graffiti on the one hand or tradition, ritual and contemporary engagement by

Indigenous people on the other can be a complex problem to resolve (e.g. see Rogers 2007). More recently, new graffiti at a rock art site near Gunbalanya, Arnhem Land, Australia was found to have been made by bored Aboriginal teenagers from the Gunbalanya community. The graffiti was interpreted as vandalism by elders and was in no way sanctioned by them.

17.3.1 Rock Art Superimpositions

Some rock art researchers have argued that superimpositioning of rock art imagery, including contact subject matter, something common in Australia and around the world, is a form of vandalism. Grahame Walsh (2000), in particular, went to great lengths to analyse superimpositions at Kimberley, Western Australia rock art sites and classified them into 'casual – unintentional', 'deliberate – positive' and 'deliberate – negative' (2000, 214). He then asked the question as to why 'prehistoric artists frequently seem to 'wilfully deface' earlier masterpieces by superimposing them with their arguably less technologically advanced images?' (Walsh 2000, 214). Walsh suggested that superimposition could be considered 'vandalism' but sometimes may have resulted from a lack of space for new art. He concluded that in some areas of the Kimberley up to 20% of rock art images were deliberately superimposed for a specific purpose and that 'In more recent Kimberley art periods, incidents of negative purpose become more apparent, when earlier themes not pertinent to contemporary cultures are effectively obliterated by the consciously and deliberately positioned replacements' (Walsh 2000, 215). Walsh also discussed instances where ochre was used to cover earlier art and that some old paintings were 'deliberately defaced' 'through pounding, pecking or less commonly scratching' (Walsh 2000, 215). For various reasons he presumed that recent Kimberley Aboriginal people did this rather than those from the time period of the original artists. Walsh concluded that given many Kimberley defacements and superimpositions occur in what can be considered 'secretive' locations they were deliberate and associated with certain types of engagement with older rock art:

> Whether these purposes or activities were concerned with magical, ritual or historical purpose remains a mystery, but such forms of superimposition cannot be considered either casual or unintentional.
> Superimposition examples involving Bradshaw Figures deliberately covered by the most recent art forms frequently make clear statements of cultural dominance (Walsh 2000, 224).

In contrast, Ana Motta proposed that Kimberley superimpositions 'were (and still are) a mechanism that allowed past and present inhabitants to (re)create and (re)appropriate the inherited landscape' (Motta 2019, 482). This is consistent with observations at rock art sites in Western Arnhem land where up to 20 layers of superimposition can be found on some rock art panels (e.g. see May et al. 2010, 60–61). This is partly because 'The very act of painting also reaffirmed ideas about the past, the Dreamtime and Aboriginal cultural traditions' (Taçon 1989, 328–329). But not only were old fading paintings renewed or covered over by new paintings but also relatively recent images with contact subject matter, such as ships, firearms or introduced animals, were superimposed or completely covered by traditional subjects such as large X-ray kangaroos, emus or fish:

> By producing detailed and aesthetically powerful paintings of native animals with X-ray, solid, hatched, and cross-hatched infill over and/or next to introduced subject matter, artists, who often were initiated and highly knowledgeable ceremonial leaders, made authoritative declarations about the importance of maintaining Aboriginal tradition in the face of cultural change brought about by outsiders in visually compelling manners. They also left messages about connections to sites and traditional clan estates (Taçon et al. 2021, 128).

In both Arnhem Land and the Kimberley some panels or sites were added to, covered over, superimposed and embellished much more than others. Motta et al. (2020) concluded that for the Kimberley 'analytically and conceptually, artists draw upon the repertoire of earlier images or artists, contributing to the continuity (and variance) of artistic forms and traditions. The exact characteristics of these continuities allow insights into the interplay between motives, places, Country and individual as well as interpersonal and socially constructed agency. Rock art thus becomes the product of a dialogue between places and different generations of artists' (Motta et al. 2020, 146). This is certainly also true for Arnhem Land and probably much of Australia, if not globally. For instance, Re (2016) arrived at similar conclusions for superimposed rock art of the Strobel plateau, southern Patagonia, Argentina.

17.4 Motivations for Non-indigenous Rock Art Vandalism and Graffiti at Sites

There appear to be many reasons why rock art sites have been vandalised or graffiti was added to them by non-Indigenous people. As Loubser (2019, 1) notes 'Reasons why visitors decide to apply graffiti at a site are variable and hard to pin down with certainty, but probably have something to do with "domesticating" untamed spaces, such as by writing down their own names or initials, the names or initials of loved ones, faces, symbols, towns of origin, and dates of visits'. Franklin (2011) refers to this as expressing 'personal presence'. Loubser also notes that 'The recognition of highly visible pictographs and petroglyphs can also be impe-

tus for visitors to leave their own mark with the likely assumption that they have the same right as Indigenous peoples to do so' (Loubser 2019, 1).

Imitation, whereby people seeing graffiti are inspired to add their own, is another reason some rock art sites are repeatedly vandalised: 'once graffiti is on the rock, it takes less impetus for other people to add their own marks' Loubser (2019, 1). Ignorance, in terms of lack of education or awareness of the importance and cultural significance of rock art, can also play a role. Another factor is indifference, whereby it is known that rock art is important but there is a lack of care or concern due to a narcissistic urge to add one's own marks or so as not to be prevented from accessing the site. An example of this is rock climbers who deliberately place graffiti over rock art so as to not be prohibited from climbing at locations with rock art (e.g. Gunn et al. 2020, 90).

Iconoclasm, whereby rock art is destroyed or damaged to hurt an individual or community, usually for religious or political reasons is a major motivation in various parts of the world (see also Zaradona 2011, 2020 for rock art landscape iconoclasm). Racism can also be a factor in all of the above and may have been a key motivation behind a 2020 incident at Uluru, central Australia when vegetable oil was thrown on paintings (Jonscher 2020). A recent overt political act of iconoclasm also occurred in Kashmir in 2020 in that Buddhist rock carvings dated to 800 AD were vandalised with slogans and a large painting of Pakistan's flag (Nagpal 2020, 1). More generally, 'vandalism can be perceived as a lack of value regarding Indigenous knowledge whilst also diminishing its continued connection to living Indigenous cultures. In short, acts of rock art vandalism are manifestations of ongoing cultural violence against Indigenous communities' (Giorgi and Taçon 2019, 190). Another example of this is bullet holes found at sites in many parts of the world that were made either with the intent to purposely damage rock art or as a disrespectful result of target practice.

Revenge can also be a motivation, as it was for a tourist driver/guide at Tadrat Acacus, southwest Libya in April 2009. After he was fired by a Libyan-Italian tourist company, he heavily vandalised several panels of engraved and painted rock art by spraying red, black and white paint over the images and writing insults against Italians and the Libyan government (Di Lernia et al. 2010). An international investigation into the incident concluded that 'The damage is extremely severe, and it is unlikely that the paintings can be successfully restored, whereas it is hoped that some engravings can be cleaned' (Di Lernia et al. 2010, 59).

Economic priorities, such as mining and other forms of development, can lead to both rock art landscapes and sites being destroyed or vandalisised. For instance, in Sulawesi, Indonesia, 'cement processing, marble quarrying and resulting new dusty roads is another growing risk for rock art' (Taçon et al. 2018, 38). Opportunistic stone quarrying has impacted rock art in India and elsewhere while large scale mining, urban development, agriculture and tourism has led to rock art damage world-wide, with Murujuga in the Pilbara Australia's most famous example because of a range of industrial development and associated town and port infrastructure since the 1960s that has impacted petroglyphs in various ways (Bednarik 2006; Zaradona 2011, 2020). Of course, this is different from graffiti left by individuals as it is much more widespread and results from industrialiastion permitted by governments within the bounds of heritage legislation that is not always effective.

Anecdotal evidence suggests that graffiti and other forms of vandalism at rock art sites has increased in many parts of the world during the Covid-19 pandemic, from Mexico and Chile to Turkey, India and Australia, but especially in the United States of America (e.g. Boster 2021, 5). Some seems politically motivated given the nature of the text and imagery, for instance at a highly significant rock art site near Moab, Utah called the 'Birthing Scene Petroglyph', named for the depiction of a woman giving birth amongst other engravings of anthropmorphs, big horn sheep, bear tracks and other subjects. The petroglyphs are thought to have been there for millennia, but in April 2021, 'White power' was scratched over some of the anthropomorphs and an ejaculating penis over other figures. Other sexually explicit vulgarities were also enscribed over rock art (e.g. see Thulin 2021). In other cases, such damage is wrought through ignorance, For example, also in Utah in April 2021 a rock climber put a line of climbing bolts through a panel of petroglyphs believed to be over 1000 years old and even advertised the route he created online, dismissing the ancient but still spiritually significant rock art as modern graffiti (Boster 2021, 4).

As can be seen, there are many motivations behind why rock art sites have been vandalised, damaged or destroyed but as Giorgi and Taçon (2019, 190) note 'the underlying psychological reasons for desecrating a site, the perpetrators and the audience at whom it is aimed are very different'.

17.4.1 Gray Rock

Located in central Australia near Barcaldine, the Gray Rock Historical Reserve is well known for being the site of the historic Greyrock Hotel established in 1877 and its associated historic graffiti (Fig. 17.3). But it also has very important rock art. For instance, up high amongst the engraved names and dates of various ages at the southern end of the sandstone wall at the base of the rock formation there are three engraved human figures which are very similar in style to one at the southern end of the largest rock art site in the region, Marra Wonga, on the nearby former Gracevale property now known as Turraburra (Taçon et al. 2022). They are said to be depictions of a key Ancestral Being called

Fig. 17.3 Gray Rock historic graffiti, including 'JW Watson 1884'. (Photograph: P. Taçon)

Wattanuri, as is the very similar human figure at Marra Wonga. On the southern wall there also are two engraved human feet and an engraved possum-like clawed hand. There is a fourth engraved Wattanuri type of human figure on a small rock platform below the eastern side of the rock complex. Further north on the eastern side of the reserve is a long rock shelter with several old white and yellow hand stencils.

The Greyrock Hotel was built as a changing station and overnight resting place for people travelling between Aramac and Clermont by coach with Cobb & Co. Graffiti was added on the wall behind the hotel where the rock engravings are located and on the rock pavement below soon after the hotel was built in front. Visitors added their names and dates and this continued after the hotel was abandoned in 1885, when a rail line replaced the coach route. There is now a continuing tradition of engraving or painting names and dates that threatens to obliterate not only the Aboriginal petroglyphs but also the early historic graffiti considered important because of its historic value related to some of the people who left their names there. Infrastructure, including pathways, barriers and signage, installed in the early 2000s did little to slow down instances of more graffiti. Ironically, the local council, in the interest of promoting tourism and active engagement with the site, almost encourages contemporary visitors to add their names to what is now an almost obscene proliferation of graffiti with a sign in front that reads: 'Gray Rock. The names engraved on the sandstone rock could have been coach passengers prior to the turn of the century, together with more recently added. A who's who treasure!'.

Fig. 17.4 Gray Rock miniature stencils made sometime in the 1990s. (Photograph: P. Taçon)

There are other smaller panels of graffiti in the Gray Rock complex and amongst the panels of Aboriginal white and yellow hand stencils towards the northeast of the rock are miniature hand and animal stencils (Fig. 17.4) likely made in the 1990s or earlier as Gunn (2000, 48) includes a photo of one of them, a miniature snake stencil, in his report. These acrylic spray-painted stencils, that imitate Aboriginal rock art but on an extremely small scale and use cut-out images of the subjects, add a truly bizarre form of vandalism to the site not found anywhere else. A lot of effort was undertaken to make the stencil sheets for repeated stenciling and to make the stencils but the motivation is unclear. No one knows who the perpetrators were or exactly what sort of statement was being made. Whether the miniature stencils were made to

creatively bond with the place, to mimic, to mock or to pay homage to traditional rock art we likely will never know. But for contemporary Aboriginal people of the area, such as Iningai elder Suzanne Thompson (Pers. Comm. 13th September 2020), the miniature stencils are a desecration that, being made with acrylic paint, is hard to remove.

17.5 Discussion and Ways Forward

In many parts of Australia and the world in general signage is sometimes used at rock art sites to dissuade people from adding graffiti (e.g. Fig. 17.5) with varying affect. As graffiti can attract more graffiti often there are attempts to remove it from rock art sites. This is sometimes straightforward, especially paint at petroglyph sites, but as Gunn et al. (2020) note, 'The removal of graffiti over painted rock surfaces requires extreme care to avoid further damage to the painting. In one recorded instance, the removal of overpaints required two conservators (Thorn 1991) and in all cases graffiti removal requires consideration of all losses, including cultural and archaeological values' (Gunn et al. 2020, 90).

According to Jannie Loubser, 'Perhaps the single most prevalent factor that promotes graffiti and other forms of vandalism in the American West is easy accessibility to contemporary people; wherever sites are close to well-travelled roads and trails, you are guaranteed to find damage caused by humans and/or their domestic stock. Where roads, parking lots, and trails have been re-routed farther away from surfaces with rock imagery, vandalism drops off significantly or virtually disappears (this trend is substantiated by site steward monitoring and/or by graffiti dates)' (Loubser, Pers. Comm. 30th June 2020 via email). This is also true for Australia which is why many Aboriginal communities are in favour of restricting access to areas with rock art sites as much as possible and is one of the reasons that the publication of exact locations of rock art sites is not encouraged.

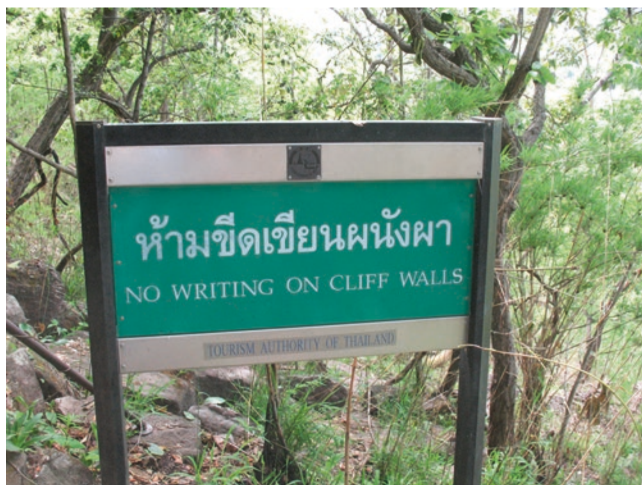

Fig. 17.5 Sign at the Pha Phak Wan rock art site, Thailand installed to help prevent graffiti. (Photograph: P. Taçon)

An analysis of dated graffiti in New South Wales from 1870 to 1985 and in the Central Highlands of Queensland from 1890 to 1981 (Morwood and Kaiser-Glass 1991) showed that instances of graffiti peaked between the late 1950s and the late 1970s, with the late 1960s to early 1970s the worst period (see Morwood and Kaiser-Glass 1991, 96–97). They concluded 'that the incidence of dated vandalism at rock art sites reflects the history of European use of specific areas and sites, as well as more general changes in ease of access and community attitudes towards Australian Aboriginal culture' (ibid., 1991, 98). Interestingly, in New South Wales the peak in incidences of graffiti occurred after a National Parks and Wildlife Act that afforded Aboriginal sites some legislative protection was passed in 1967. This led to a 1974 change in the National Parks and Wildlife Act. 'with stricter penalties and provision for restricting access to, and use of, areas containing Aboriginal sites' (ibid., 1991, 98).

Loubser (2020) recently undertook a similar form of analysis for four important heavily impacted North American sites. He concluded that:

> A common thread at all four sites is that graffiti does not necessarily increase with increasing population or increasing visitation numbers. A shared reason for the increase in graffiti rather appears to be increasing access to unmanaged sites, be it through opening them to the public (e.g., Scenic Mountain during Edwards ownership in the early 1900s or Writing-on-Strone becoming a provincial park in 1957) or constructing new roads to within easy walking distance of the sites (e.g., Castle Gardens in 1968). Closure of roads (e.g., Painted Rock since 1989), entrance via guided tours only (e.g., the Archaeological Preserve at Writing-on-Stone since 1977), and increased monitoring by park staff (e.g., since the 1990s at Scenic Mountain) have been accompanied by a rapid drop-off in graffiti incidences (Loubser 2020).

Education/awareness of the importance and contemporary cultural significance of rock art is often said to be important for preventing graffiti and other forms of vandalism. However, this is not always effective. For instance, at the 'Art Gallery' site in Carnarvon Gorge, Queensland a woman called Jana carved her name into rare black hand stencils after having attended an information evening about the art (Giorgi and Taçon 2019, 190). The National Parks authority successfully charged and fined her, something that is rare worldwide, partly because it often is impossible to find vandals or prove who exactly committed an offense.

In mainland Southeast Asia, rock art tourism remains a threat: 'Besides development, unmanaged tourism is the largest threat to rock art sites. Most rock art sites that are open to tourists tend to be remote and unmonitored and, as

such, are susceptible to graffiti and littering. In many of these tourism sites, the rock art is out of reach from human hands, either because of its physical location, or because barriers have been erected to prevent access. In rare cases, rock art is directly damaged by vandalism' Tan (2019, 144).

Some of the issues involving graffiti and vandalism at rock art sites has been identified and discussed above but 'a deeper understanding of the impetus for graffiti at rock art sites needs to be researched and will lead to more effective management strategies' (Giorgi and Taçon 2019, 190). In this regard it is worth noting Ursula Frederick's (2018) observation that:

> An added source of tension in the nexus between graffiti and rock art comes from the area of applied heritage management. Here on the ground, park rangers, Indigenous custodians, council authorities, and heritage professionals are confronted with the day-to-day prospects of graffiti as an act of wilful vandalism and destruction. While damage to rock art is disturbing, the motivations underlying such activities should not be summarily dismissed as 'all the same'. Rather, graffiti over and against rock art, may be undertaken for different reasons; it is often site-specific and prompted by local circumstances. Nor can we assume that it is always intended to be harmful. Indeed, identifying what exactly constitutes vandalism *as* or *against* rock art may be a source of contestation in its own right (Frederick 2018, 638).

Frederick (2018) and many other researchers have argued that graffiti has various forms of historic and cultural significance and that removal can also be a form of site desecration (e.g., Merrill 2011). Morwood and Kaiser-Glass (1991, 98) contend that 'If systematically undertaken, the recording of graffiti to monitor changes in its rate of accumulation at sites can provide information on the long- and short-term effectiveness of legislation, well-publicised punitive action on offenders, specific management procedures at individual sites, and so on'. They conclude that vandalism at sites is 'an artefact with historical significance, research potential and management implications'. Thus, it should be standard practice to record graffiti before removal (1991, 98). Merrill (2011, 72) argues that new theoretical approaches are needed 'to truly grasp the relationship between heritage and vandalism'. He further states that 'these emerging theories may encourage the actual preservation of examples of vandalism or facilitate their preservation by record' (2011, 73). For instance, what has been interpreted as graffiti can have importance when it is associated with certain well-known individuals, historic events or particular places. Examples include the names and dates left by early non-Indigenous explorers across Australia and many other parts of the world, graffiti made by Sex Pistols band members (Graves-Brown and Schofield 2011) and even rock paintings made by recent non-Indigenous artists in rock shelters such as Brett Whitely (Frederick 2016).

There are numerous motivations for modern people to make marks at rock art sites, including ignorance, indifference, iconoclasm, racism, political motivations, the influence of previously made marks, boredom, attention-seeking, signalling 'personal presence' and even revenge against tour operators, as outlined above. It is highly unlikely that new graffiti at rock art sites can be universally prevented. However, better monitoring and management of sites open to the public, Indigenous/local community management of sites in concert with heritage managers and other experts, new educational awareness campaigns, and rock art heritage being valued as a part of living culture rather than just archaeological artefact (Taçon 2019; Taçon and Baker 2019) should help reduce the number of new instances of graffiti where rock art is located.

It is very important to develop flexible conservation and management plans for rock art sites developed for tourism. Plans should be reviewed and updated at regular intervals. Tourism education about the site's history, context and cultural importance, as well as site visitor etiquette, can be accommodated by having visitors first visit a nearby small museum or orientation facility. At these facilities, or in the open close to rock art sites, sometimes visitor books have been found to be an effective way to prevent graffiti by providing an alternative place for visitors to leave their marks (Brown et al. 2003; Buhrich 2002; Dragovich 1993, 1995; Franklin 2011, 2014; Gunn 2001; Sullivan 1984). Visitor books are also useful for other management reasons, such as determining where visitors are coming from and how that has changed over time.

Besides protective infrastructure that facilitates visitation, rock art sites open to the public also need to be monitored for vandalism and natural deterioration on a regular basis (Franklin 2014; Marshall 2020), ideally with the assistance of associated Indigenous people or local communities. Involving relevant Aboriginal Traditional Owners in Australia, or in Southeast Asia culturally embedded custodians from nearby villages (Taçon et al. 2018, 38) or even Buddhist monks (Tan and Taçon 2014), also helps prevent unauthorised access to rock art sites and sometimes provides employment (e.g. Jalandoni and Taçon 2018, 55). It also can instil a sense of ownership and pride, resulting in sites being better managed. Thus, although there are global challenges to managing rock art, it has been demonstrated that the best way forward is with local solutions (Agnew et al. 2022) and via a 'Living Heritage' approach (Taçon and Baker 2019) in which:

> heritage is not considered a monument of the past that has to be protected from the present community, for the sake of future generations; heritage is now seen and protected as an inseparable part of the life of the present community. Thus, past and present-future are not separated (discontinuity), but unified into an ongoing present (continuity). Therefore, a living heritage

> approach attempts to mark the shift in heritage conservation from monuments to people, from the tangible fabric to intangible connections with heritage, and from discontinuity to continuity (Poulios 2014, 139).

This is in keeping with Australian Aboriginal perspectives about rock art sites being part of contemporary culture as much as heritage (Taçon 2019) and with those of many other cultures around the world.

Lastly, in terms of the challenge of defining and managing graffiti, it is important to repeat Ursula Frederick's statement that it is 'difficult to characterise graffiti because it is a mode of expression and communication which comprises a vast array of media, technique, subject matter, form, and meanings. Yet despite the fact that people 'do graffiti' in different ways for different ends, it is most often typified as an act of vandalism or anti-social behaviour' (Frederick 2009, 212). It is possible that some custodial communities in the future may desire to add various forms of what others consider 'graffiti' to sites to maintain their personal and group connections through this aspect of a living heritage approach, potentially horrifying some heritage managers, rock art researchers and others in the process. But, from their perspective, they may argue that they are genuinely adding to the long-term changing complexity of marks left at their rock art sites, continuing a tradition tens of thousands of years old in new ways. The history of global rock art research highlights the nature of changing imagery across time and space but are we ready to accept graffiti as part of this and is graffiti, like beauty, simply in the eye of the beholder?

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