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SPIRITUAL DIMENSIONS IN MATERIALS CONSERVATION

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Abstract
Training of conservators traditionally involves detailed and complex analyses including assessments of the surface and structural details of the objects that are of interest. In the few programs that specialise in the conservation of archaeological sites and objects there appears to be scant attention given to the issue of the spiritual dimensions in assessment of condition reports. When dealing with shipwreck sites on which people have perished and in working with conservation of Aboriginal rock art sites an awareness of the spiritual element is vital if the best outcomes for the sites are to be obtained. Although an awareness of the values of the intangible heritage are enshrined in the Burra Charter lecturers often shy away from discussing such issues with their students and communications regarding such elements in government committees and workshops are often poorly managed (Marquis Kyle and Walker 1992). This paper discusses the issues of raising awareness of the spiritual dimension for conservators and curators managing shipwreck and rock art sites as well as general anthropological collection materials. Naturally proscriptive processes do not work when managing the intangible, but unless such issues are addressed there will be a continuing disconnect between the best outcomes for collections and for traditional owners of cultural information. Once sensitised to capturing and working with intangible elements museum professionals can be transformed into new realms of understanding.

1.1 Introduction

The transcendence of the spiritual elements in conservation was brought home most powerfully on my first rock art conservation trip. I had inherited a grant from the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) when David Wood, the curator of Restoration at the Western Australian Museum, left to run the redevelopment of Arthur's Head in Fremantle. The 1986 grant was to review the success of the treatments given over the previous 20 years to rock art sites in the Wheatbelt region of Western Australia. The leader of the review was the former rock art conservator John Clarke (Clarke 1976), who had left to become a private Aboriginal Heritage Consultant. In order to discharge the grant we collaborated with staff from the Department of Aboriginal Sites (then part of the Western Australian Museum) and the team included two micro-meteorology students from Murdoch University. One of the students was Philip Haydock who has continued to work in the Aboriginal Heritage management area for the past 25 years. The reason behind this apparently bizarre choice of field assistants lay in the fact that my shipwreck work had demonstrated the value of direct measurements on the microenvironment of the artefacts. Since Aboriginal rock art sites are in the open air, on rock surfaces as engravings or as painted surfaces on rock surfaces within caves and shelters, it was vital that the degradation forces acting on them were fully assessed. Previous experience with the work of micro-meteorologist Tom Lyons at Murdoch University had demonstrated that the climate and energy balances in open air sites could be accurately modelled. The heat fluxes affecting the microclimate

of the surfaces in rock art shelters were used to improve the understanding of the factors that control deterioration (Lyons and Haydock 1987, Steyn and Lyons 1985, MacLeod and Haydock 2002).

The conservation management of shipwreck sites has been dominated by the maritime archaeological activities associated with the site documentation and excavation. In more recent times the role of the onsite conservator has come to the fore and best practice followed in management of wreck sites involves the seamless integration of the approaches of the conservator and archaeologist in the interrogation of the wreck and its secrets. Conservators can engage with artefacts, particularly those made of metals, and discern the metallurgical and environment site history from the layers of corrosion products (MacLeod and Binnie 2011) but when skeletal remains are found the issues become much more complex. Within Australasian waters site management involving skeletal remains falls under the aegis of the Code of Ethics of the Australasian Institute of Maritime Archaeology. Until recently there was little discussion in the conservation literature regarding the ethics of dealing with materials which relate to a site which is either a mass grave or from which skeletal materials have been recovered. A recent paper discussed these issues in the context of a personal response to shipwrecks upon which the author had worked and included war graves such as the American Civil War submarine *H.L. Hunley,* the VOC retourship *Batavia* (1629) and the Second World War battleship USS *Arizona* (MacLeod 2008).

2.1 Rock art sites and their spiritual dimensions

2.1.1 The Wheatbelt The journey into the realms of Aboriginal pre-history in Western Australia began with sites at the back of Kellerberrin and in the vicinity of Hyden which consisted of hand stencils and zoomorphic images on granite, where haematite or red ochre had been the primary medium used to create the outline of human hands. In the semi-sepulchral gloom deep inside a shelter, the torch light enhanced the elements of mystery as I looked upon the works made by the previous occupants of the shelter. The charcoal dating of deposits at Mulka's cave near Hyden had shown human occupation approximately 6,500 years BP and I was struck dumb by the latent power of such cultural continuity (Rossi 2010). At the time of the ICCROM grant we were concerned with the issues of the effectiveness of the silicon drip lines and their ability to prevent water seeping across the stencilled images and some 20 years since their application they were found to still be effective, though visually intrusive. The time scale of the intervention of museum conservators shrank into insignificance when compared with the occupation dates of the sites. The oral history indicated that the handprints in the eponymously named cave were those of Mulka, a local Aboriginal identity who ate children as a source of food since his poor eyesight prevented him from hunting. When confronted by his mother, who remonstrated with him over his behaviour, he killed her on the spot. Mulka was subsequently hunted and killed at nearby Dumbleyung and laid on an ant nest to be devoured. Being a person who only knows of his ancestral roots back to the islands off the West Coast of Scotland and back to 1725, I was in awe of the length of time that this hand stencil represented.

2.1.2 The Kimberley The next turning point occurred while working with Philip Haydock reviewing the nature of the pigments and their stability in the Napier Range limestone sites and in the sandstone sites on the Mitchell Plateau in the Kimberley region. Prior to fieldwork being undertaken extensive discussions were initiated both with Gulingi Nanga Aboriginal Corporation Incorporated in Derby and the Junjuwa Community Incorporated in Fitzroy Crossing. Permission to analyse micro-samples of pigments and to collect microenvironmental data at five painting sites was granted on the understanding that none of the pigments would be dated This caveat was set up to ensure that the wishes of the elders were met for they believed that all the images had been painted by their ancestors and the spirit beings of the sites and as such it was culturally inappropriate to attempt to date the material. The results from the pigment analyses have been reported (Ford et.al. 1994, 1997) and this data has greatly increased our understanding of complex interactions of inherently fugitive white pigments such as huntite, $CaMg_3(CO_3)_4$, which are transformed under optimal circumstances into oxalate analogues which preserve the integrity of the surfaces. This work has lead to significant improvements in the conservation management of rock art shelters and their painted surfaces (MacLeod et.al. 1995).

While checking on the data logger and the attached temperature and relative humidity sensors on the first night at the Billyarra site in the Napier Ranges, I became aware that I was being watched by the owners of the

site. In response to this awareness I spoke to the spirits and explained what I was doing. Permission was granted to do my work and so the micro-climate equipment was checked and I climbed down the rock face and went to sleep under the watchful stars. The next morning one of the elders looked up from brewing his tea and he knew immediately that I had been spoken to by his ancestors who guard the site and from that point onwards our whole relationship moved into a higher plane. A similar experience occurred with Bruce Ford when working up at the Mitchell Plateau site. One of the elders was concerned that a long walk to do a radio schedule included traversing some very rough landscape and so he simply stated that he would get somebody to go along and watch over my colleague. Upon his return the elder said that he knew it was all safe and then was seen talking to the spirit beings as he sat by the campfire in a most matter of fact fashion. Since that awakening in the Kimberley I have become aware of the spirits of the land in which I would be working.

In order to understand the interaction of the pigments with moisture in the wet and the dry seasons some samples of the white flake-like pigment huntite was monitored in controlled relative humidity (RH) microenvironments inside glove bags which sealed the samples from the external environment. Traditionally the Wandjina spirit beings bring the life giving rain to the Kimberley and if the spirit is not present in the painting the rains do not come. The presence of the live power in the Wandjina is seen through its changed appearance as the seasons move along and the long dry comes to an end. As the relative humidity was increased, by changing the nature of the saturated salt solutions inside the glove bag, the weight of the pigment sample increases until the turning point of 56% RH is reached. At higher humidity values there was a dramatic increase in weight as multiple layers of water were absorbed onto the surface, causing the plate like structures to swell and change from being flat two-dimensional platelets into a three dimensional shape. The physical chemical explanation for the changing appearance of the Wandjina images was due to adsorption phenomena, which is not incompatible with the traditional understanding of what was happening to the images on the rock art sites as the moist fronts began to flow across the landscape and began to re-hydrate the desiccated surfaces (MacLeod et.al.1997).

A totally unexpected reaction to the presence of the spiritual power captured in a painting of a Wandjina occurred during the valuation of the collections of the Western Australian Museum in 2009 when the author was assisting the valuer Simon Storey in the Anthropology store. A series of paintings by Wati Karawara had been prepared in the preparation of the replica Wandjina cave which has been successfully relocated from the now demolished Francis Street building on the Perth museum site to its present location in the Kattadjnoong gallery in the Beaufort Street wing of the main museum. As the protective wrapping around the painting was taken away and the image was revealed, my breath was taken away, my knees crumpled and an involuntary cry escaped from my mouth. Those present in the room had to assist me to move away from the area and then the painting was valued and re-wrapped and put away. When the author asked some elders what was the meaning behind my extreme reaction the answer was clear and simple: the Wandjina spirit found you and now you are linked together. Many years before this experience I had visited the site where the original image was located and had been deeply moved by the power of the place but I had no expectation for such a future reaction. The experience was only felt with the single image and not with other paintings done by the artist at the same time back in 1972.

2.1.3 The Burrup The removal of hundreds of engraved rocks from the sites destined for industrial development associated with the onshore gas processing facilities in the Pilbara region of Western Australia occurred in the early 1980s. Where possible the rocks were relocated to a fenced open-air compound and they have remained there for more than 20 years. The impending development of several nearby major industries, producing a range of petrochemical products, necessitated a detailed ‘pre-disturbance’ survey of the microenvironment of the rocks in the compound to establish the background microenvironment and condition of the rocks. During three visits to the rock art compound and the surrounding areas more than 750 measurements on pH, chloride activity, microbiological activity and a large number of elemental analyses were conducted on the washings of the rock surfaces. The outcomes of these studies demonstrated how sensitive the rock surface was to salt damage due to the accumulation of wind borne sea salts and to the impact of nitrate ions, regardless of whether the source was anthropogenic or of natural origin (MacLeod 2005). During a workshop in Dampier discussing the role of

conservation management and monitoring of the sites amongst representatives from the Department of Indigenous Affairs, the Department of Industrial Development, Western Australian Museum and community elders there were times of intense debate about the future of this most remarkable area which has recently received Federal protection under the Heritage Act. One of the most respected rock art experts in the group was Pat Vinnicombe who had been working on documenting Aboriginal sites in that region over the past 25 years. In a conversation Pat told me that I had to care for her rocks as she was not sure how much longer she would be here and able to work on them. The next day she died of a heart attack before the positive outcomes of the workshop could be enumerated.

A few years after the death of Pat Vinnicombe the author was in the Burrup conducting a comparative study of the more remote sites with rock art engravings to see if there were any systematic differences between the geologically different substrates, gabbro compared with granophyre, and the results of measurements were initially confusing as they did not follow predicted trends (Donaldson 2011). During discussions with Wilfrid Hicks, one of the traditional owners, I shared my concerns about the data I had collected. I stated that I had to respond to what the rocks were telling me and not to what I had wanted to find and in response Wilfrid said that the rocks tell the truth and that I knew that I had to listen to them. He was happy that I could hear their messages and that I was welcome in his country at any time. He had noted that when I was with him and other elders walking up the Deep Gorge site, which is like a giant outdoor art gallery with engravings on rock surfaces in front of you, at head height and high above, my feet were instinctively moving on and off rocks. Without realising what was happening the spirits of the site were ensuring that I did not tread on areas where the rocks were imbued with spiritual values. Working in this region of intense rock art engravings one is aware of the presence of spirit beings who continue to define the landscape and how visitors will respond to that unique environment.

Hand stencil at Ogilvy's cave near Kellerberrin, Western Australia

Turtle image at King Bay South with inspection team April 2003

2.2.1 Shipwreck graves and their management

Historic shipwrecks provide a unique resource of information to the whole community through the work of maritime archaeologists, conservators and physical anthropologists since the materials recovered from these sites provide a rare insight into the lives and times of ordinary people. Whilst histories of the rich and famous are well documented, the lives of the bulk of the population are poorly recorded which results in little being known of the trials and tribulations of sailors and passengers in past centuries. Timbers and a multitude of artefacts recovered from the *Mary Rose* (1545) and the *Batavia* (1629) have helped to provide insights into the methods used in ship's construction over the past 465 years. The systematic archaeological excavation of these three sites has also seen the recovery of human remains. Issues of how to manage such material has normally not aroused much discussion, as there are few known direct lineal descendants of the persons concerned, since the identity of the original passengers and crew is largely unknown. However, this issue becomes very significant for those concerned with the management

and the excavation of more recent wrecks associated with the World War II, such as the USS *Arizona* in Pearl Harbour in 1942. It would appear that there are two sets of standards being applied to the same problem. For 20th century sites surviving family members have a very strong emotional and spiritual connection with many of those entombed in the wrecks which in turn informs the way in which maritime archaeologists and heritage managers deal with the sites. There is often a tension between the materials conservation requirements and the need to respect the spiritual and ethical issues associated with recovery of human skeletal material. Once documented and stabilized it is possible to assess options for reinterment and re-hallowing of the site.

2.2.2 *Mary Rose* (1545). The recovery of human remains posed the issue of how to reverently deal with the material since highly significant social and cultural data can be obtained from skeletal analyses with muscle attachments and human dentition providing the forensic pathologist with unique data on the health and hygiene, diet and general living habits of people in past times (Rule, 1982). The ethical issues associated with treatment of human skeletal remains have to be balanced against the legitimate needs of the historians and the general public that have a strong desire to understand their past. In this instance, after due recording of the skeletal material, and detailed documentation and analysis, the bones were re-interred. Representative samples of human bones were placed in a coffin in the precincts and the confines of Portsmouth Cathedral during a special dedication and hallowing ceremony sometime after the recovery of the vessel. The balance of the collection of fragments of skeletons is managed within the museum in a sacred store.

2.2.3 *Batavia* (1629). The Dutch East Indiaman Batavia was built in 1628 and wrecked on its maiden voyage on the Houtman Abrolhos Islands off the Western Australian coast on June 4th 1629. The subsequent events on Beacon Island saw 125 men, women and children raped, butchered, and murdered (Drake Brockman 1956). The successful return of the captain Pelsaert and the trial of the ringleaders of the rebellion and their execution on the Islands has been well documented (Janz, 1647). The recovery of material from the archaeological site has brought to historians and maritime archaeologists a wealth of information about life in the first quarter of the seventeenth century (Pasveer, 1998). In the rear of the *Batavia* gallery at the Western Australian Museum Shipwreck Galleries, the presence of the skeleton of one victims of the mutiny helps create the unique atmosphere of the gallery. A reconstruction of a grave found in the shallow coral sand on Beacon Island shows all the major bones of one of the victims of the mutiny. There is a sharp cut in the skull and also the jaw has been severed on one side and the scapula cut through. The decision to exhibit the skeletal material was only made after consultation with the Dutch government who, as legal inheritors of the VOC and its assets, had the responsibilities of determining the fate of skeletal materials from the wrecks. Having assisted in the preparation of the skeleton for a Bicentennial Shipwreck Exhibition in 1987 and experiencing no qualms about dealing with human remains, it came as a surprise to find a new dimension of the wreck five years later. Once on Beacon Island, I gradually became aware of a very real sense of unease. My initial thoughts were that I was just imagining the stories laid down by Hugh Edwards' historical novel *Island of Angry Ghosts* which relates the events of the massacre, but the unexpected awareness of a presence was nevertheless very real (Edwards 1966).

At that time, a number of groups were considering the cultural-tourism potential of the *Batavia* wreck site and Beacon Island. It seemed to be a great opportunity for capitalising on a unique resource that would create a much-needed boost to the local economy of Geraldton, which is located 50 km away on the mainland. The primary considerations in the development of a Cultural Heritage Management Plan were dominated by the nature of the archaeological site of the wreck, which is managed under the Historic Shipwrecks Act. Visits by tourists and their activities on the island need to be effectively managed through close supervision. Discussions with staff at the Western Australian Museum, Geraldton noted that other colleagues had experienced similar unease from the disturbed spirits when visiting the island. After much discussion, they organised an ecumenical service of re-hallowing the island. The event took place at dawn as the party of ministers, priests and a rabbi stepped ashore. The angry ghosts have gone and the remaining spirits are at peace (McGrath, 1998). In the middle of 1999 an expedition of archaeologists travelled to Beacon Island to conduct a series of excavations of the areas in which some skeletal material had been accidentally disturbed during sewage works. The full-scale archaeological excavation of the area uncovered what is believed to be the mortal remains of a group of possible family members. Media coverage at the time of the excavations

resulted in some degree of public disquiet over the issue of why, after all this time; the site is being excavated since the full details of the massacre had been documented in the seventeenth century. It was resolved that once the conservators have pieced together the fragmented sculls of the victims and all the forensic data has been obtained, the polyvinyl acetate emulsion will be dissolved from the skeletal materials and the fragments will be reburied on the island (Pasveer 1998).

2.2.4 Submarine *H.L. Hunley (1864).* In the immediate aftermath of the sinking of the Union ship *Housatonic*, the confederate submarine *Hunley* sank in the murky waters of Charleston Harbour in 1864, taking with her all the eight members of the crew. This event marked a turning point in the American Civil War. The ill-fated submarine had previously met with two accidents, which resulted in all but a few of the crew losing their lives. The first crew had received burial honours but concerns about Union spies resulted in the second crew being buried in a common seafarers' grave along with the submarine designer Horace Lawson Hunley. The *Hunley Commission* organised the recovery of the *Hunley* in June 2000. Apart from the archaeological imperative of trying to determine the physical reasons for the sudden sinking of the submarine, the other compelling reason behind the recovery operation is to "bring home" the crew for burial. The *Hunley* has significance on an international naval history level as the first submarine to successfully deploy a torpedo and to sink a targeted vessel.

The recovered submarine was excavated within a specially designed treatment and holding tank in the nearby naval yard in Charleston Harbour. A specially designed morgue had been prepared to receive the crew and this allowed for respectful storage of the human remains while the full forensic analysis was undertaken. Having concluded this work, which included DNA typing (Downs et.al. 2002), facial reconstruction, forensic dentistry etc, the bodies were placed in coffins and given a full military funeral. The third crew were buried in the same area of the Magnolia Cemetery as the first two crews after a public ceremonial journey from the laboratory, through the streets of Charleston, to their final resting place. Some time before the recovery of the submarine the ill-fated second crew had been exhumed from a football stadium and interred in the same location as the first crew. The DNA analysis of the brains of the last crew of the *Hunley* enabled a group of descendents to be identified and invited to attend the public funeral as guests of honour. The author entered the opened submarine after the bodies had been removed and there was still a very tangible presence of the dead within that steel tomb despite their mortal remains having been removed several months before the inspection.

2.2.5 USS *Arizona* (1941). In 1941 the Japanese bombed the American naval base at Pearl Harbour, Ohahu, Hawaii and the battleship USS *Arizona* was one of the largest wrecks of that period which lies on the bottom of Pearl Harbour as a testament to the ferocity of the aerial attack. The wrecks in this underwater national memorial park are under the control of the United States National Parks Authority. Currently there is an active management program for the site, but questions remain regarding the level of conservation intervention that can be practiced (Lenihan, 1989). Although corrosion studies have determined the rate at which the vessel will collapse (Foecke 2010) the question remains whether it is allowable to intervene on this site and install various cathodic protection treatment facilities that will halt, or at least slow down the corrosion rate of these significant wrecks? Since the third barbette acts as a focus to draw the viewers' attention down below the surface into the heart of the remaining structure of the ship, it is vital that there is very little further corrosion since this would jeopardise the nature of the memorial which contains the remains of more than 1100 sailors and marines. Some form of conservation intervention is needed to protect the remaining structure from further corrosion.

2.2.6 Judy Dive bomber and shipwrecks of Chuuk Lagoon (1944)

While approaching the wrecked Judy dive bomber in Chuuk Lagoon, in the lee of Eten Island, I was acutely aware that I was not alone in the shallow waters. The wreck site is that of a Yokosuka D4Y Suisei aircraft type, which was a single engine, carrier based dive-bomber and reconnaissance aircraft. The two-seat cockpit section includes the tail section of the plane. As I swam towards it, with my underwater corrosion testing equipment, I knew that the spirits of the dead pilot and crew member were still present on this wreck site. I advised them of what my wish was, to interrogate the wrecked aeroplane and to obtain measurements on the

corroding aluminium alloys, so I asked their permission to do my work. With permission being granted we conducted the work that was needed and some key data was obtained that has been able to assist the Heritage management team in Chuuk to determine the optimum conservation management options for these and other wrecks in the lagoon (MacLeod 2006). When surfacing from diving on a dozen shipwrecks in the Lagoon one of the tribal elders asked why I sang when out of the water and safely in the confines of the boat. I simply told them that I was happy that the wrecks had given me their secrets to share and to care for and that I was glad to have returned alive from the dive and not joined the spirits of the dead on the wrecks. This simple statement was readily understood and accepted by the local community members who said that their elders always sang to the fish in remote locations before casting their nets into the tropical waters, apologising for the need to take their lives so that their family members might be sustained. In return, the fish always filled their nets with enough for the family but not too much to make the fisherman too wealthy.

When reviewing the differences between the experiences on the shipwreck sites in Chuuk Lagoon, which were generally associated with *Operation Hailstone*, the carrier-borne bombing raids on the facilities of the Imperial Japanese Navy in February 1944, the site of the Tonoas dock boat stood out as being somehow different. On the dozen other shipwrecks in the lagoon I had been aware of the fact that I was working in and around the tombs of hundreds of Japanese crew and it made one mindful of the need to be reverential in dealing with the taking of measurements of decay and deterioration. The Tonoas Dock Boat did not sink at the time of the general conflagration associated with *Operation Hailstone* and contemporary accounts indicate that there was no loss of life associated with the sinking of this armed tuna fishing boat. Although the archaeological values of the wrecks may not be quantifiably different in terms of the number of people lost on the wrecks, the cultural values and the way in which the sites are regarded by the Japanese people is of great importance to descendants of the dead and also to the inherent values associated with the attraction of these sites to diving tourism.

Conclusion

Although discussion of the spiritual dimensions of working on the conservation of rock art and shipwreck sites may make conservators feel uncomfortable during public debate, it is important to convey the understanding that an awareness of the issues does enhance the value of the sites. When dealing with community members who's bonding to the land is so intense that physical separation from their ancestral places can lead to intense pain and illness, it is vital to be open to a level of communication and interaction with the spiritual elements if the best outcomes for the preservation of the intangible heritage are to be obtained. To show appropriate reverential attitudes when dealing with skeletal remains on historic shipwrecks is essential to the preservation of the non-material dimensions of our cultural heritage. The spiritual dimensions inform our present deliberations and lay the path for better management and conservation in the future.

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