Beauty Is More Than Skin Deep
X-Ray Art Of North Australia
Including Kakadu National Park

Introduction
For at least 4000 years Australian Aborigna-

tal artists of the Top End of the Northern
Territory have been depicting creatures by
showing both internal and external fea-
tures of the body. This began by including
empty body cavities in otherwise solid or
stroke infill paintings of animals and occa-
sionally backbones represented with a thin
line through a central body cavity (Figure
1; Taçon 1987, 1989a, 1989b). Over time
the concern about the insides of things
grew so that when Europeans arrived in
this part of Australia, in the early to mid
1800s, artists were producing elaborately

Figure 1: Early X-ray macropod, Wellington Range, Arnhem Land.
detailed works on rock walls and sheets of bark that showed many organs, bones and other internal aspects of anatomy of not only animals but also human figures. These designs delineate many features of bodies, in both naturalistic and abstract ways, with some paintings akin to scientific diagrams (e.g. Figure 2). This interest in the mechanics, aesthetics, beauty and power of the inside was not confined to animals and humans but was extended even to depictions of European ships, fire arms and other.

Figure 2: X-ray barramundi fish, Kakadu National Park

Figure 3: Rock painting of an X-ray macropod, Wellington Range, Arnhem Land
introduced artefacts (Taçon and May 2013; Wesley 2013). Since then so-called ‘X-ray’ art has gained immense popularity among non-Indigenous Australians, with works in major art galleries and museums across the world.

The European discovery of X-ray Aboriginal art began in the 1870s with Paul Foelsche, a member of the Northern Territory police force who patrolled the Cobourg Peninsula northeast of Darwin (Taçon and Davies 2004). Foelsche obtained bark paintings for museums and private collectors, as well as taking an acute interest in the works himself. In the early 1900s, buffalo shooter Paddy Cahill and scientist Baldwin Spencer actively encouraged the production of bark paintings for sale or exchange and a new art industry was born. Since the early 1900s, great galleries of X-ray rock art were also discovered. Arnhem Land X-ray paintings were soon known around the world with many non-Aboriginal artists seeking inspiration from their simplicity, elegance, exoticness and beauty (e.g. see Taçon and Chippindale 2001). Skilled artists painted on both rock and sheets of bark, often with similar subject matter (e.g. Figures 3 and 4).

In this paper the reader is introduced to some of the X-ray and other forms of rock art of western Arnhem Land, including Kakadu National Park, with a focus on changing aesthetics as can be seen within the extensive rock art chronology. The paper also provides a guide to much of the key literature on the rock art of the region as well as flagging other recent summaries and new/emerging research.
The rock art of Kakadu and Arnhem Land

Much has been published on the rock art of Kakadu and Arnhem Land (see Chaloupka 1993 for the best illustrated large volume), including some good recent summaries (e.g. David et al. in press; May et al. 2015; May and Taçon 2014). This is because the rock art of western Arnhem Land, including Kakadu National Park, has long been recognized as having World Heritage significance. At least 20,000 rock art sites have been reported and documented in various forms of detail across the Arnhem Land plateau and sandstone outliers, from near Katherine in the south and as far north as the Wellington Range near the coast of the Arafura Sea. Each year hundreds of new discoveries are made. Many forms, styles and periods of art have been defined and varied stylistic chronologies have been proposed for rock art argued to span at least 28,000 years (e.g. Brandl 1973; Chaloupka 1993; Chippindale and Taçon 1998; David, Barker et al. 2013; Jones et al. 2016; Lewis 1988; Taçon and Brockwell 1995; Taçon and Chippindale 2008; various papers in David et al. in press). This region contains some of Australia’s most outstanding surviving painted rock art imagery, sometimes in massive sites (e.g. Djulirri – see May et al. 2010, Taçon, Langley et al. 2010, Taçon, May et al. 2010; Mt. Gilruth – see Chaloupka 1993 and Haskovec 1992; and Nawarla Gabarnmang – see David et al. 2011, David et al. in press, David, Barker et al. 2013, Gunn et al. 2010), in many overlapping styles.

One of the earliest forms of rock art in this region featuring depictions of human-like figures has been labelled ‘Dynamic Figures’ by George Chaloupka (1977, 1984a, 1984b, 1993), the first rock art researcher to study this type of painting in detail. Chaloupka named the style ‘Dynamic’ because of the action-packed, ‘expressive movement’ of the individual figures and the scenes (Chaloupka 1984b: foreword). In this style, one of the earliest in the region (Chaloupka 1993; Taçon and Brockwell 1995; Chippindale and Taçon 1998), human figures dominate, representing a significant shift from the earlier naturalistic animal-dominated art. When animals are shown in Dynamic Figure art it is usually in relation to human figures. Macropods are most common, comprising 49% of animal depictions and found at 81% of sites. Fish account for 22% of Dynamic animal depictions across Kakadu – Arnhem Land and are found at

Figure 5: Rare yellow male Dynamic Figure, Kakadu National Park
19% of sites. Other creatures account for less than 10% of Dynamic animal paintings but the extinct thylacine (‘Tasmanian tiger’) is found at 14% of sites and echidnas at 11% (Taçon and Chippindale 2008:77; see also May et al. in press).

Sometimes human-animal composite beings were depicted interacting with human figures or engaging in human-like activities (see Taçon and Chippindale 2001 for detailed study). Human figures appear to race across rock surfaces, legs outstretched and arms bent with the weight of numerous spears and/or boomerangs they hold. Curiously, dots and dashes are often present near the mouths and limbs of Dynamic figures, which may represent sound and movement (Chaloupka 1993; Tacon and Chippindale 1994; Chippindale et al. 2000). Depictions of female Dynamic Figures (as evidenced by breasts and female genitalia) are rare in comparison to Dynamic males. Usually females (Figure 6) are shown with different material culture than males, such as fibre objects (especially dilly bags). Some females carry spears like males, something not seen in more recent styles of rock art. Thus the imagery has the potential to provide insight into past gender roles and this will be the subject of future research (and see May et al. in press).

Dynamic Figures were replaced with various styles and forms of rock art, including what have been labelled Yam Figures, Simple Figures and various regional styles. Ongoing research by several PhD students and long-time researchers is revealing much complexity to the chronology throughout the Holocene and the sequence is not only

![Figure 6: Female Dynamic Figure, Mann River, central Arnhem Land](image)
being fleshed out for various time periods but also across space, from one end of the Arnhem Land region to the other (e.g. papers in David et al. in press; Jones et al. 2016; Wesley and Viney 2016; and see below re. History Places project).

**Depictions of women and X-ray rock art**

Women and female subjects figure prominently in more recent periods of Arnhem Land rock art, especially the bichrome and polychrome art of the past couple thousand years (Taçon 1989a, 1989b). Some of the most powerful Arnhem Land Ancestral Beings, responsible for the greatest acts of creation, are also said to be female. On the other hand, male Ancestral Beings undertook both creative and destructive acts. In western Arnhem Land, an especially important Ancestral Being, known as Yingarna in the Kunwinjku language, played the most prominent role in the creation of the world for people, including the first Kunwinjku. Yingarna is said to have travelled across the sea, stepping ashore on part of the Cobourg Peninsula. She carried many dilly bags full of children and food. As she travelled inland she deposited spirit children in waterholes, created the first people, told them what languages they should speak, taught them about the foods they should eat and gave them many other gifts. She was the first mother not only for the Kunwinjku but also for many neighbouring language groups (Berndt and Berndt 1951, 1970; Taçon 1989b).

In stories and art Yingarna is often portrayed as a powerful woman with human form but sometimes is like a female Rainbow Serpent, a composite being with a snake-like body but made of animal parts of

*Figure 7: Rock painting of Yingarna, Injalak Hill, Arnhem Land*
various species (see Taçon et al. 1996). She was responsible for creating large areas of landscape while her Rainbow Serpent son, Ngalyod, is credited with creating numerous localised areas, often described as sacred sites, within Yingarna’s larger landscapes.

One of the most outstanding and significant depictions of Yingarna (Figure 7) can be found on Injalak Hill, at Gunbalanya (Oenpelli), not far from the East Alligator River. Injalak has one of the largest concentrations of rock art in the area, with dozens of decorated shelters and several large galleries.

Although important, the image of Yingarna is not to be found in one of the most prominent locations. Rather, her image is tucked away in a passage through the dissected sandstone cap of Injalak, surprising visitors as they make their way from areas of art, burial and past residence to a high platform with a commanding view of the landscape to the north and west that Yingarna created.

Depictions of women feature in the spectacular X-ray rock paintings that can be found across western Arnhem Land (see Figure 8 and Taçon 1987, 1989b, 1992), although fish are the most frequent subject, accounting for almost 67% of x-ray depictions (Taçon 1988, 1989b, 1992). Macropods and birds are also common and overall the recent period rock art that X-ray paintings are a part of is very different to the earlier Dynamic Figure rock painting tradition. But like Dynamic Figure paintings, great attention was paid to detail so that different species of fish, mammals, birds and reptiles can easily be recognised, but stylistically and aesthetically in a very different way. Paintings of animals often occur as bichromes or polychromes with backbones, ribs, long-bones, internal organs and sometimes optic nerves illustrated. Depictions of people and Ancestral Beings usually do not show internal organs, focusing instead on the skeleton and external cultural features such as body painting designs and material culture. The internal contents of some objects were occasionally shown, including depictions of cargo and people inside paintings of Macassan and European ships, replicas of actual vessels that plied Australia’s northern shores during recent centuries (Taçon and
May 2013). At some sites hundreds of X-ray paintings were made in conjunction with images that have striped, hatched, cross-hatched or, occasionally, spotted infill, as well as a range of stencils, stick figures and other forms of painted rock art.

Brilliance
For Aboriginal Australians of northern Australia the power of such paintings lies not only in their form but also in the aesthetic effect created by portraying internal and external features in combination with blocks of solid colour, hatching and cross-hatching (Taçon 1987, 1988, 1989a, 1989b, 1991). Indeed, it is the ‘shimmering’ nature of such works that makes them especially beautiful to non-Aborigines and especially powerful to Aboriginal people. These paintings are said to display ‘brilliance’ – they are bright, shiny and colourful in ways that create an aesthetic effect that people of vastly different cultures can experience.

Take, for example, the painting illustrated in Figure 1, a rock art depiction of a barramundi fish painted in the early 1900s at a site in the middle of Kakadu National Park. In the fish we can see lots of internal detail. There are eyes with optic nerves, a backbone, body cavities and many internal organs, as well as an exquisite and highly accurate external form. As well, the tail has diamond designs and there are many areas of hatched colour. Aboriginal elders state that the diamond pattern is related to body designs worn by certain initiated individuals in ritual while the hatched areas are the most significant of all. It is these areas, shown in this case as hatched purple on white, bordered in red, that are said to illustrate the life-force or soul of a creature. Because there are lots of these colourful areas in the barramundi this depiction is considered to be especially beautiful, powerful and significant. It is an illustration of ceremony, story and ritual, as well as exhibiting landscape and totemic connections for some individuals (Taçon 1987, 1988, 1989a, 1989b, 1991).

One of the curious features of the painting is that an actual barramundi with fillets removed would look slightly different. That is because the backbone and vertebral processes would not run through the centre of the fish but rather would be seen to lie immediately below the top of the back. When quizzed about this discrepancy,

Aboriginal elders point out that it is within the flesh of creatures that its life-force lies so the fillets have been included by placing them above the backbone (Taçon 1988, 1989a, 1989b). Three dimensions, internal and external, have thus been collapsed into two with none of the essential features lost. The result is a powerful and, perhaps, unusual image that makes many statements about aesthetics, belief and experience at once.

New research on the origins of Arnhem Land X-ray art
One of the many unanswered questions about Arnhem Land rock art is how did X-ray paintings emerge from very different previous styles? For instance, given that Dynamic Figure rock paintings are so different to X-ray paintings how could there be a change from monochrome Dynamic to bichrome X-ray and are there intervening styles that can help us see the transition? To answer this and other questions the northwest Arnhem Land based History Places project was established.

The History Places project focuses on the rock art of the Wellington Range, northwest Arnhem Land, Australia. It was initiated in 2013 with Traditional Owners concerned about threats to rock art. Their ancestors had frequent interactions with Macassans, Bugis and others visiting from Sulawesi and other parts of what is now Indonesia since at least the early 1600s. They also had contact with people from Europe since the early 1800s. At many rock art sites evidence of both forms of contact can be found in the form of paintings of a diverse range of ships, introduced (traded) material culture, depictions of foreigners and
paintings of animals such as buffalo, horses, goats and even a macaque monkey (e.g. see May et al. 2013a). The largest rock art site complex, Djulirri, has one of the largest assemblages of this type of contact rock art from anywhere in Australia (May et al. 2010, Taçon, May et al. 2010). Djulirri is also one of the largest rock painting complexes so far recorded in Australia (e.g. May et al. 2010, 2013a, 2013b; Taçon et al. 2011; Taçon, Langley et al. 2010; Taçon, May et al. 2010; Taçon, Paterson et al. 2012; Taçon and May 2013).

Stretching across the heart of the Welliongton Range lies the Namunidjbuk traditional clan estate. Namunidjbuk extends from the coastal waters south of South Goulburn island to the tributaries of the King River further south. Senior Traditional Aboriginal Owner Ronald Lamilami not only supports intensive heritage research across the Namunidjbuk Estate but also is in the process of setting up a sustainable tourism business and research centre with family and clan members at Waminari Bay. Lamilami refers to rock art sites as ‘history books’ and big complexes such as Djulirri as ‘libraries’ that record all the experiences and encounters his ancestors had over time.

Results from the pilot phase of the History Places project (Taçon 2013) led to substantial Australian federal government funding and a major second phase (2016 – 2018) of field research. In the Wellington Range pigs, termites, future tourism, vandalism, mining exploration and future development are the biggest risks to its rock art. Consequently, the History Places research project was designed to, among other things, develop a conservation and management model for use not only in Arnhem Land but also nationally. A key research objective is to better understand chronological change in Wellington Range rock art and to record the contemporary cultural significance of rock art history places.

George Chaloupka (1993) first visited the Wellington Range, in the 1970s, noting its outstanding values. Intensive Griffith University/Australian National University research identified the Wellington Range as having one of the most impressive and extraordinary bodies of rock art in Australia, consisting of paintings, stencils, prints and beeswax designs in sandstone shelters. The full Kakadu – Arnhem Land sequence is represented but there are also unique styles and forms of imagery (e.g. stencils of birds – Taçon, Langley et al. 2010). Rare depictions of extinct animals, including life-size thylacines (Tasmanian Tigers), a giant kangaroo and a possible depiction of thylacoleo (marsupial lion), suggest the oldest surviving rock art is 15,000 years of age or older (Taçon et al. 2011; Taçon and Webb in press). The Wellington Range also has the greatest concentration of contact period rock art in Australia, with imagery from the past few hundred years documenting the arrival of Asians (e.g. Bugis, Macassans) and Europeans (mostly British). A multitude of forms and styles lie between these two extremes. At Djulirri, over 3000 images were recorded including the oldest depiction of a Southeast Asian perahu (large wooden sailing vessel). Radio-carbon dating of a beeswax snake that overlies the painting indicates it was made prior to the mid-1600s, contradicting the view of historians that people from Southeast Asia did not begin visiting Australia’s northern shores until the mid-1700s (Taçon, May et al. 2010).

Significantly, only a small area of the Wellington Range has been surveyed and recorded. Large parts of the Namunidjbuk Estate as well as the western and eastern Wellington Range have not yet been surveyed or documented, despite information collected from local Aboriginal communities and past researchers that suggest many hundreds of sites, with rich imagery, are waiting to be researched, conserved and managed for future generations. Few excavations have been undertaken but recent results from four localities indicate a rich record of more than 30,000 years (Wesley 2014). We began further excavations led by Duncan Wright (Australian National University) in June 2016, including below and close...
to both Dynamic Figures and recent X-ray paintings.

In June and July 2016 160 previously unrecorded rock art sites were also located through survey. They were documented with a large team of Traditional Owners and colleagues, including other chief investigators such as Sally May (Australian National University), Liam Brady (Monash University), Ines Domingo Sanz (University of Barcelona), Joakim Goldhahn (Linnaeus University), PhD students and volunteers. Results of the 2016 field season are currently being analysed and will be submitted for publication in late 2017. But suffice it to say that we found many sites with previously unknown Dynamic Figures, early X-ray paintings and various forms of imagery in between. After analysis is complete and another season of field work is undertaken we should be in a position to answer the question of how X-ray rock art developed in the Kakadu – Arnhem Land region, as well as how and why aesthetics and manners of depiction changed dramatically over time – from large naturalistic animals to Dynamic Figures to X-ray rock art.

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