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Art and Identity: Aboriginal rock art and dendroglyphs of Queensland's Wet Tropics

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Abstract

That is a cassowary foot...and we are the cassowary clan.

Dugulbarra fieldworker's initial reaction to locating a Wet Tropics dendroglyph (March 2014).

Identity is a key concept in Australian rock art research. Archaeological interpretations of rock imagery recognise that motifs and their production convey information, not just about the artist, but also about the cultural and social context in which motifs were produced. Rock art studies provide a unique window into the world view of the artists that is not available through other archaeological material. Aboriginal custodians are also interested in the relationship between imagery and identity, often through a lens that does not separate the social, cultural and physical landscapes. Dendroglyphs, although rare, offer similar opportunities to explore visual expression, identity and place.

The Wet Tropics of Queensland offers a unique set of circumstances to investigate style in Late Holocene visual culture. The rock art, affected by the high humidity, was likely created relatively recently (Edwards 2007; Gunn and Thorn 1994; Ward et al. 1995) while dendroglyphs, only as old as the trees on which they are carved, are not likely to exceed a few hundred years in age (Buhrich et al. 2016). In this thesis, I explore the relationships between rock art, dendroglyphs and language in the Wet Tropics of north Queensland to understand relationships between stylistic choices and social context. My research identifies that rock art production was, and continues to be, strongly linked to cultural identity. However, in the Wet Tropics at least, language was not the main factor in determining style in either rock art or dendroglyphs. Across Australia, Aboriginal social and cultural identity was multi-faceted and individuals belonged to a complex web of intersecting identities that included language, clan, totems and moieties. While language has emerged as the most significant in post-colonial Australia, my findings suggest this may not always have been the case.

Wet Tropics Aboriginal groups have consistently voiced the need for researchers to collaborate with them in all stages of research. My research design responds to this by incorporating both formal and informed approaches through quantitative (site and motif recording) and qualitative methods (multiple interviews with relevant Aboriginal people). By combining these forms of data, the rock art and dendroglyphs can be studied within context of broader Aboriginal cultural landscapes.

Forty-five rock art sites and twelve dendroglyph sites were examined, in six language areas. While similarities identify a Wet Tropics rock art style characterised by painting as the main technique, significant differences were found between rock art styles in the eastern and western zones of the study area which, in some cases, intersect linguistic boundaries. Dendroglyphs, found in the east, where figurative designs dominate the rock art corpus, are mostly non-figurative like the western style rock art. Furthermore, dendroglyphs and rock art are found in different contexts, suggesting that, as forms of visual expression, they had distinct roles. Today, rock art sites and dendroglyphs continue to be highly significant to Aboriginal people, as part of a living cultural landscape that incorporates story places, walking tracks and ceremonial sites.

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1 Introduction

Rock art and dendroglyphs are unique forms of visual expression. As artistic expressions, they provide a window into the worldview of the artists and the social context in which they were created, while their relative permanence on rock and trees demonstrates characteristics of the cultural landscape not available through the study of moveable material culture. Rock art has especially captured the imaginations of archaeologists and others, who seek to understand the information exchanged between artists and viewers. Some see motifs as 'language' or 'signposts' that could be read within a cultural framework (Conkey 1990; Sanz et al. 2016). Choices in technique, application, form and colour can, for example, reflect the social and cultural realms in which the artists 'socialised' the landscape (Taçon and Chippindale 1998). Across Australia, style in visual expression was employed by Aboriginal Australians to communicate spheres of interaction, particularly from the Late Holocene and rock art continues to be a significant expression of cultural identity for contemporary Aboriginal communities (e.g. Brady 2008; Brady and Taçon 2016; Cole 2016; David and Lourandos 1998; McDonald and Veth 2012, 2013; Morwood 2002; Mulvaney 2013; Ross 2012; Smith 1992).

The Wet Tropics of northeast Queensland presents an opportunity to investigate how style in rock art and dendroglyphs related to social identity in the Late Holocene. Previous research has focussed on the unique movable material culture of the Wet Tropics, using shield designs to identify different language or clan identities (e.g. Abernethy 1984; Hale 1989; McConnel 1935; Pannel and Ngadjon-Ji 2006). However, no previous attempt has been made to determine how immovable visual culture relates to the language identities of rainforest Aboriginal people, despite the presence of both rock art and dendroglyphs and a complex linguistic landscape.

One of the complexities of investigating relationships between rock art and identity is the difficulty in anchoring chronologies, especially as rock art has been found to survive for several millennia in the right environment (Aubert et al. 2014; McDonald and Veth 2012). However, the high humidity of the Wet Tropics environment is not conducive to long term preservation of rock art, and much of the rock art we see is likely to be relatively recent, probably not older than five hundred years, and perhaps much younger (Gunn and Thorn 1994:146). This appears to be a similar age to the visible Torres Straits rock art (McNiven et al. 2009). While this would be a problem if investigating the antiquity of the rock art, the fact that it is relatively recent provides an opportunity to compare rock paintings with our understanding of the recent Aboriginal past. Detailed ethnography, historical and anthropological records in combination with the extensive linguistic research provides a solid understanding of the complexities of Aboriginal cultural and

social life from the time of European settlement to the present (Anderson 1984, 1996, 2016; Birtles 1997; Bottoms 1990, 1992, 1999, 2013; Brayshaw 1973, 1990; Dixon 1972, 1983, 1996, 2009, 2015; Dalrymple 1865; Lumholtz 1889; Meston 1895, et al. 1899; O'Leary 1903; Pannel 2006; Roth 1910).

The primary topic this thesis investigates concerns the relationship between art and identity in the Late Holocene Wet Tropics. Four specific questions are addressed:

- What are the similarities and differences between rock art and dendroglyph style in the Wet Tropics?
- What does rock art and dendroglyph style reveal about the relationships between language groups in the Wet Tropics?
- How does the rock art style of the Wet Tropics relate to the surrounding style provinces?
- How do Aboriginal people interpret rock art and dendroglyph sites and motifs?

Australian archaeological research is increasingly influenced by ethical considerations, including the implications of native title on how Aboriginal cultural heritage is owned and controlled by Aboriginal custodians. Rainforest Aboriginal people have consistently expressed a requirement for researchers to 'work alongside' relevant custodians as joint parties (Fuery 2009; Review Steering Committee 1998; McIntyre-Tamwoy et al. 2010; Wet Tropics Aboriginal Cultural and Natural Plan Project Team 2005). The methodological approach taken for this research, to develop mutually beneficial projects with relevant Aboriginal groups, has influenced how the data is collected and interpreted. Early in the process, it became clear that Aboriginal custodians interpret the sites and motifs in terms of their cultural worldview. This thesis attempts to incorporate these cosmologies into the research.

1.1 The Wet Tropics rainforest

It is estimated that 1% of Australia's landmass was rainforest at European colonization, but that this has been reduced to 0.25% today (White 1994). Rainforests are living museums of the floral environment that dominated Gondwana during the hot and wet Jurassic period, 60 million years ago (White 1994). Tropical rainforest, found in Africa, South America, Asia and Australia, are characterized by extreme floral diversity, high annual rainfall and average temperatures (Leigh et al. 2004). In Australia, rainforest environments are found in a non-contiguous line on the east coast of mainland Australia, from Cape York at the most northerly point of the mainland to Tasmania in the south. They comprise 30,000kms² of Australia's landmass, a quarter of which are within the Wet Tropics (Goosem and Tucker 2013:10).

Rainforest resources were among the first to be exploited for timber and agriculture after European colonization (Birtles 1997; Goosem and Tucker 2013:10). In 1988, 9027km² the Wet Tropics of Queensland, from Cardwell to Cooktown, was placed on the World Heritage list for its natural values, recognizing the area as a significant example of a primitive forest type which contains the largest and most diverse concentration of primitive angiosperms (Carmody 2011). The world heritage listing specifically recognizes the aesthetic beauty, high number of endemic plants and animals and the importance of rainforest pockets which have survived multiple ice ages and are living links to the evolution of flowering plants (Tracey 1982).

The Wet Tropics rainforest is also a cultural landscape, the result of Aboriginal presence over generations. Aboriginal people have shaped the rainforest environment through fire, developed special techniques for processing toxic foods and created a unique material culture based on rainforest resources, enabling permanent occupation of this marginal environment. However, what constitutes 'rainforest Aboriginal culture' is not well defined. Some researchers identify the mesophyll vine thicket vegetation of the central Wet Tropics, from Tully to Babinda and west to Ravenshoe, as home to 'rainforest Aboriginal culture' (Cosgrove et al. 2007), while others associate 'rainforest Aboriginal culture' with the broader Wet Tropics World Heritage Area (Hill et al. 2011).

This study focusses on the Wet Tropics World Heritage Area (WHA), with a buffer of around 20 kilometres. The area I call the 'Wet Tropics' incorporates the WHA and its margins (Figure 1.1). The Wet Tropics is an interesting biocultural region with complex and relatively well documented linguistic alliances. Aboriginal people of the Wet Tropics occupied a complex cultural landscape of linguistic, clan and kinship affiliations. Linguistically the region is highly complex, with four core language families that occupied predominantly rainforest environments and a further two that occupied the western margins (Dixon 1976, 2015). Rainforest Aboriginal culture in the Late Holocene is recognised as being distinct in terms of archaeology, material culture and linguistics (Dixon 1976, 1996, 2002; Cosgrove 1996; Horsfall 1987; Ferrier 2015; McGregor 2016; Pannell 2008) and so, the Wet Tropics provides a unique opportunity for the investigation of social identity and visual expression in recent Aboriginal Australia. For this study, sites in the core rainforest area and the drier western margins were investigated to provide insights into the core rainforest linguistic areas and the 'in between junctions' (Taçon 1994).

1.2 Rock art, dendroglyphs and social identity

A basic tenet of this research is that designs used in paintings or engravings on rock (rock art) and decorative carvings in living trees (dendroglyphs) reflect the society in which they are produced. This does not deny there is also individual agency involved in the production of rock

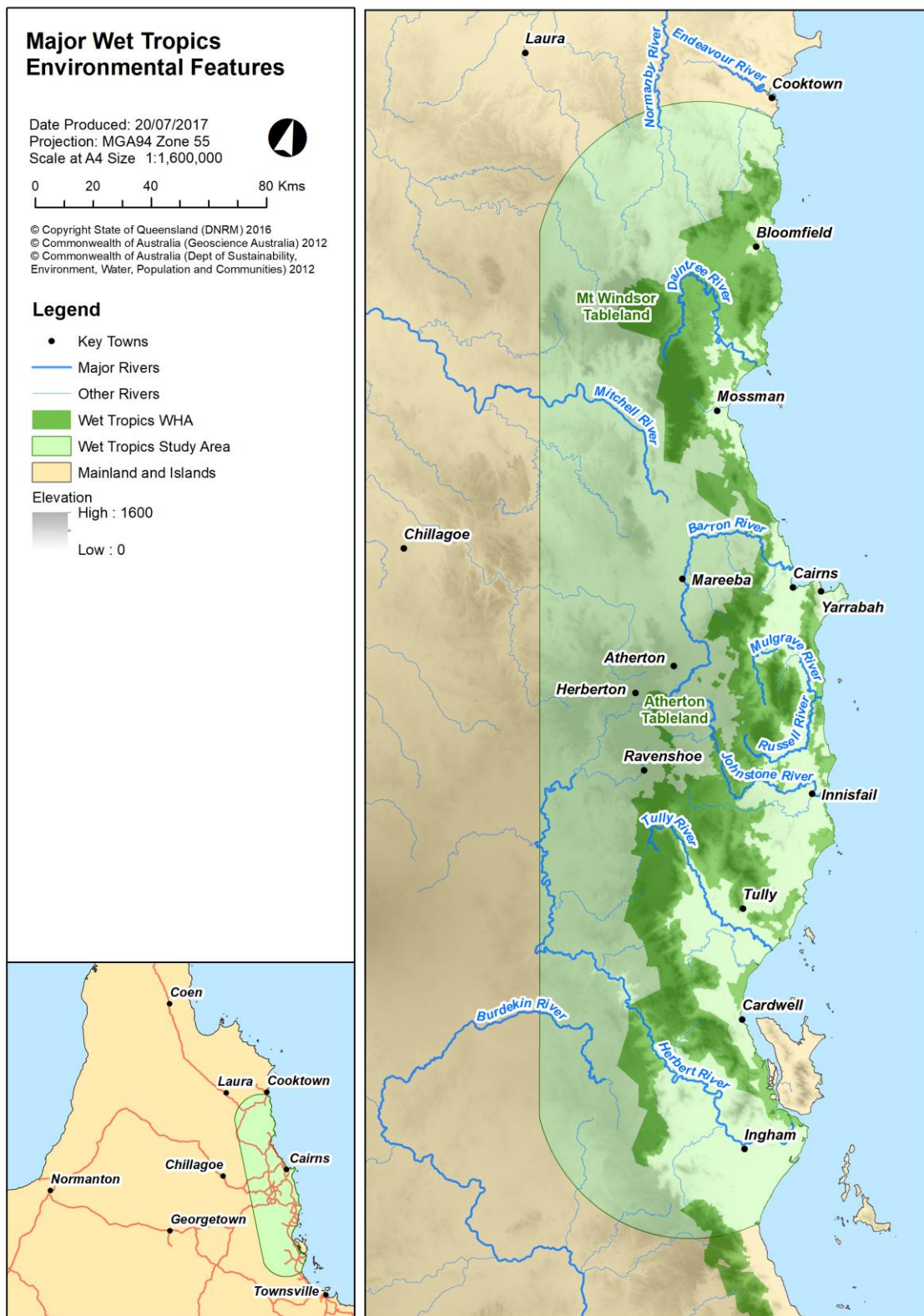


Figure 1.1 The Wet Tropics of Northeast Queensland, showing major environmental features

art and dendroglyphs. However, my thesis asserts that style overall is not an individual choice but produced within a cultural and social context that can therefore reveal information about that society (Conkey 2012).

Social identity is a major focus of rock art research. Recent rock art research utilises landscape studies, ethnography, phenomenology, material culture studies, neurology and statistics to illustrate symbolic behaviour and identity across the globe (e.g. Balme et al 2009; Brady and Bradley 2014; Cole 2016; Conkey 2012; Hampson 2015; Gunn et al. 2017; Layton 2012; Lewis-Williams 2002; McDonald and Veth 2013; Taçon et al. 2010). The relationship between rock art style and language is less clear. In Australia's Kimberley, the association between Wandjina motifs and clan identity is recognised in native title claims (Blundell and Woolagoodja 2015). In Arnhem Land, sub-styles of rock art, reflected in colour, subjects and frequency of motifs were found to correspond to linguistic areas (Taçon 1993). Similarly, links have been found between language and rock art technique in both the Sydney and Pilbara regions (McDonald 2008; McDonald and Veth 2013). However, in the Torres Strait differences in rock art style were found to reflect land use patterns, rather than language (Brady 2010), while in central Australia and the southwest, regional variations of rock art style did not correlate with language distribution (Gunn 2011; Gunn et al. 2017).

There has been little work on the relationship between Indigenous dendroglyphs and social identity, despite being examples of visual expression that are tied to place. Indigenous dendroglyphs are rare worldwide, and the presence of dendroglyphs and rock art in a single, defined region provides an excellent opportunity to compare these two forms of visual culture. Most areas with Indigenous dendroglyphs such as northeast and northwest United States and the Chatham Islands are devoid of rock art and the vast geographical distribution of New South Wales dendroglyphs makes comparison with a single rock art region impractical (Blackstock 2001; Coy 2009; Etheridge 1918; Richards 2007). Research on Indigenous dendroglyphs tends to focus on ethnographic or ceremonial interpretations (Barber 2012; Black 1941; Blackstock 2001; Etheridge 1918; Mathews 1896; Richards 2007) or preservation and management (Barber et al. 2014; Grimwade 1995; Solomon and Thorpe 2012).

1.3 Working alongside: a collaborative approach

Community-based archaeology (defined below) has been an integral part of archaeological research since the 1980s, and become more relevant with the recognition of native title rights and increased numbers of Indigenous run corporations to represent Indigenous interests including cultural heritage (Greer 1996; Greer and Fuary 2008; Greer and Henry 1996; McGrath 2016; Ross 1996). In terms of rock art research, Brady and Taçon (2016:364) identify a

‘tremendous potential for researchers who are engaged in collaborative projects to combine their archaeological investigations with considerations of how and why people react the way they do to rock art (and other archaeological features) in contemporary settings’. While a detailed overview of the methodology taken in this research is presented in Chapter 4, it is important at this stage to explain something about my process of ‘working alongside’ and the influence it has on the direction of the research.

This research required a unique form of community-based archaeology, specifically designed to suit the conditions relevant to the study area. This approach follows the lead of Greer (1996), Layton (1992), Taçon (1994), Brady (2004), Brady and Kearney (2016) and others (Clarke 2002; Cole et al. 2002; Greer 2010; Greer et al. 2002; May et al. 2005, 2010; Sanz et al. 2016; McIntyre-Tamwoy 2011; Smith 1992, 2010) to move beyond an ‘archaeological’ interpretation and to include perspectives from Aboriginal custodians. I approached individual communities with a specific project aim – to compare rock art and dendroglyph style across the Wet Tropics – and invited communities to develop mutually beneficial outcomes based around my research.

This was not a straightforward process. First, the relevant community and spokespeople needed to be identified. For this, I followed the process established under the *Aboriginal Cultural Heritage Act 2003* (Qld), which identifies the Aboriginal party as the native title group, cultural heritage body or an individual with knowledge of traditions and customs. Where native title was determined or a claim registered, this meant working with the Directors of a Prescribed Body Corporate or other Aboriginal Corporation, or their nominated representatives. During the production of the thesis, new native title claims were registered, making the identification of relevant Aboriginal parties a dynamic process. In some areas, there were conflicts of custodial ownership, to which this research was not immune.

For some of the groups this research came at an opportune time to develop capacity and contribute to ongoing research and management projects. The Waribarra and Dugulbarra clan groups of Mamu Traditional owners are one example. Mamu had recently been awarded native title, had a group of enthusiastic and work ready young men interested in developing land management capabilities and, most importantly, were led by two enthusiastic and insightful Elders. Waribarra and Dugulbarra successfully incorporated my research interests into their own aspirations for looking after country. The five projects we completed together based on rock art and dendroglyphs in their estate were successful in supporting Mamu Traditional Owners to return to country, passing on inter-generational knowledge, increasing the information on their Cultural Heritage database, providing skills and training for ongoing employment and building relationships with government agencies and other land managers. This is only one example.

Collaborations with each of the groups resulted in different outcomes, depending on the individual circumstances of each group and each project.

Due to time constraints, it was not possible to approach each of the 20 or more groups represented in the WHA. The number of the sites recorded must be considered in terms of these collaborations. Sites were chosen by custodians, and few site visits were completed without the Aboriginal party being present, and never without their explicit permission. Certain information was restricted, and the choice by Aboriginal parties to leave out certain information, symbols and sites has been respected. Restricted information is held by each relevant community groups and may be available through negotiation with that group. The result of working collaboratively was that the Aboriginal parties shared information, knowledge and worldviews that are not available through formal analysis of motifs and sites. Thus, the process of working alongside set some boundaries and limitations to the research, while also extending it in directions that were not envisaged at the start of the project.

1.4 Significance of the research

This research makes a significant contribution to understanding relationships between symbols and identity in Late Holocene Aboriginal Australia. In some ways, the Wet Tropics exemplifies Late Holocene Aboriginal societies. Rainforest seeds provided a valuable carbohydrate resource that could feed large numbers of people and enabled permanent settlement of an otherwise marginal environment (Cosgrove 1996; Field et al. 2015; Ferrier and Cosgrove 2008; et al. Tuechler 2014). Social identities were expressed through song, dance and visual expression at regular gatherings, known as *pruns*. Together these elements provide an excellent opportunity to examine how visual expression, in rock art and dendroglyphs, were used to communicate social identity in the Wet Tropics in Late Holocene. The comparison of rock art, dendroglyphs and language is an original contribution that has not been attempted at this scale before.

One of the more significant outcomes of this research is the attempt to explain the role of rock art and dendroglyph symbols and sites in terms of present day significance, meaning and relevance, which Taçon and Brady (2016) have identified as a key challenge for rock art researchers today. The continued use of rock art as a symbol of social identity from pre-European contact through to the 1950s, 1990s and current days is demonstrated by the repainting of one shelter in 2016 or 2017, indicating that rock art continues to be highly significant component of the Wet Tropics cultural landscape.

On a practical level, this research fills a gap in our understanding of Australian rock art style regions. While rock art research has identified major rock art regions across Australia, vast gaps remain (Gunn 2011; McDonald and Clayton 2016; Morwood 2002; Taçon 2001). One of these gaps

is the Wet Tropics, sandwiched between the rock art regions of southeast Cape York Peninsula, Chillagoe, the North Queensland Highlands and the Herbert-Burdekin region. It has been proposed that the west flowing Mitchell River acted as a boundary between the large figurative Cape York Peninsula 'Quinkan' style in the north and the linear, geometric non-figurative style found to the south (Cole and David 1992; David and Chant 1995; David and Lourandos 1998). The headwaters of the Mitchell and Herbert-Burdekin River systems start in the Wet Tropics and therefore the potential to reveal how the rock art of this unique environmental zone relates to the surrounding stylistic regions.

Over 40 rock art sites have been recorded in and around the rainforest in published records, unpublished accounts and state government site files (e.g. Brown 1993; Cosgrove and Raymont 2002; Dixon 1983; Gunn and Thorn 1994; Edwards 2007; Horsfall 1987; McConnel 1931; Seaton 1951, 1952a, 1952b, 1952c). It has been tentatively suggested this could be the largest body of rock art paintings on a granite substrate worldwide (Gunn and Thorn 1992), yet a synthesis of rainforest rock art style, and how it relates to surrounding rock art regions, has never been completed.

One way in which rainforest Aboriginal people seek to identify, manage and communicate their special relationship to the WHA as a cultural landscape special relationship is through cultural mapping, by locating and recording cultural places and practices. The preferred format is for individual groups to be conducting their own cultural mapping projects and managing their own records. By working with each group to identify, record and manage sites on their own estate, my research complements existing cultural mapping projects and establishes a process for conducting regional research on cultural sites. My research made significant contributions to building the capacity of Aboriginal parties to locate and record sites and manage site information.

1.5 Definitions

One of the objectives of this thesis is to investigate the relationships of style in rock art and dendroglyphs to the Aboriginal languages of the Wet Tropics region. Therefore, it is important to define exactly what is meant by 'rock art', 'dendroglyphs', 'style' and 'rainforest Aboriginal people'.

For the purposes of this research, 'rock art' simply describes the practice of intentionally making marks on rock. My definition of rock art includes the application of wet paint (painting), carving into a rock (engraving), blowing paint around an object to leave a negative impression (stencil), rubbing a dry pigment across a rock surface (drawing) and placing wet paint on an object and then pressing that object on a rock surface (prints).

The definition of 'dendroglyphs' follows Etheridge's (1918:1) description of 'trees in which boles have been incised, carved or marked by a process of cutting'. While dendroglyphs fall under the category of Culturally Modified Trees, I make a distinction between trees that are marked from resource use, such as toe holds or sugar bag scars, and dendroglyphs which are marked for purposes other than resource use.

The definition of 'style' presents a challenge. While there is consensus that style transmits information on social identity, rock art researchers have grappled with how style is defined (Conkey 1990; Weissner 2008; Whitley 2001). Is form, symbolism, placement or something else the most important in determining relationships, and how are boundaries drawn around 'style provinces'? Maynard's definition of rock art style as being composed of a combination of technique and form has been widely used to understand regional variations in Late Holocene Australian Aboriginal rock art (Cole 1998; David and Chant 1995; Franklin 2007; McDonald and Veth 2012; Ross 2012). A movement towards conducting fine grained analyses of rock art within Indigenous frameworks also contributes valuable information about the relationship of rock art style and social identity (Brady and Bradley 2014; Hampson 2015; Sanz et al. 2009). In this thesis, style can be considered both 'the sum of the parts' and the cultural context'. In this way, I incorporate both 'outward' representation that can be identified through formal techniques, and 'inward' representations which can only be understood through informed techniques, or 'referential toeholds' that can be understood through analyses and cultural interpretations (Brady and Bradley 2014; Franklin 2007; Layton 2000; Taçon and Chippindale 1998).

The definition of the 'rainforest Aboriginal people' or 'rainforest Aboriginal culture', while described more fully in Chapter 2, requires some clarification here. Culture is not static and across Australia the Aboriginal past was (and is) dynamic, with changing occupation patterns, a highly diverse linguistic landscape and a rich oral history that describes shifting social boundaries over time. To some extent, the concept of a 'Rainforest Aboriginal people' has been an historical construct, influenced by Tindale and Hale's (1941) observations of morphological traits and ethnographic collections of distinctive material culture (McGregor 2016). What links 'rainforest' groups is a common plant-based diet, material culture that includes unique stone tool technology and shared ancestry through the Dreaming stories (Bottoms 1992, 1999; Dixon 1976; Pannell 2008). However, these elements are not uniform across the Wet Tropics as Dixon's linguistic work confirmed. Today, the composition of the rainforest Aboriginal groups is constantly shifting as new groups are formed, and new identities forged (Pannell 2008). Boundaries, social and political, continue to be negotiated, just as they have throughout the long occupation of the Australian continent. The listing of the world heritage area led to the creation of new governance systems, including the Wet Tropics Management Authority, which was tasked with protecting the world

heritage values and working with stakeholders including Aboriginal people. In many ways, the creation of the World Heritage Area forced Aboriginal people to come together as one voice in dealing with government and to unite as 'rainforest Aboriginal people' (Buhrich et al. 2016).

1.6 Structure of the thesis

The following two chapters describe the Wet Tropics study area and illustrate its importance as a Late Holocene cultural landscape. First, the bio-cultural landscape of the Wet Tropics is presented. This includes details of the location of the study, the people of the Wet Tropics landscape and how 'Aboriginal rainforest culture' has been interpreted. Chapter 3 provides a discussion of the Late Holocene visual culture of the north Queensland region, summarizing what we know about Wet Tropics rock art and dendroglyphs and the use of visual expression, such as shield designs, to communicate identity in the Wet Tropics. At the end of these background chapters the reader will understand why the Wet Tropics is identified as a distinctive environmental and cultural zone, where visual culture was used to express the complex linguistic environment.

Chapter 4 contains the research design and methodology. This includes my community-based approach that responds to the requirement by rainforest Aboriginal people for researchers to work collaboratively. The process for 'working alongside' developed for this research focused on developing mutually beneficial research projects, developed in consultation with each of the nine Aboriginal parties. Chapter 4 also includes the theoretical background and the specific steps taken to record rock art and dendroglyphs, both quantitatively and qualitatively.

Results are presented in two chapters, Chapter 5 presents results of rock art research and Chapter 6 the results of dendroglyph research. These include observations on motifs, site locations and categories of form as well as an understanding of how the sites and motifs relate to the broader cultural landscape from the perspective of the relevant Aboriginal parties. At the end of these chapters the reader will understand the attributes of Wet Tropics rock art and rainforest dendroglyphs, both from a formal study of style and using an informed approach which draws on Aboriginal perspectives.

The final part of the thesis provides a discussion on the theoretical, methodological and practical implications of the work. My research found that language areas, rock art style and dendroglyph style do not neatly align in the Wet Tropics, although motifs and sites can have specific cultural meaning and connotations to rainforest Aboriginal people. I suggest that rather than thinking of provinces of style, motifs in this part of Australia may be better related to the Dreaming 'strings' that connect groups rather than divide them. The research demonstrates the values of using a combination of formal and informed approaches in rock art and dendroglyph investigations in

Australia. Although influenced by political dynamics, which makes regional studies complicated, the integration of Indigenous views into meaning and cultural associations provides invaluable insights.

2 The Bio-cultural landscape

The northeast coast of Queensland is an island of green vegetation surrounded by open savannah to the west, north and south and the Coral Sea to the east. The region is characterised by extreme precipitation that nourishes verdant forests, unique flora and fauna and permanent watercourses. A dramatic spine of mountains intersects the Wet Tropics WHA from north to south, separating the dense rainforest vegetation on its eastern side from fire tolerant sclerophyll to the west. While the both the eastern and western sides of the Wet Tropics receive high annual temperatures and unpredictable weather events in the summer months the eastern side enjoys a regular annual rainfall that feeds numerous permanent rivers and dense rainforest vegetation. These physical elements combine to create one of the global biophysical hotspots recognised on the World Heritage List.

When Europeans first penetrated the dense jungles of the Wet Tropics in the 1870s they found large numbers of Aboriginal people who they perceived as being different to other First Australians. Explorer Christie Palmerston considered rainforest people ‘as wild and uncultured as the forests they occupy’ (Pannell 2008:61). Palmerston’s descriptions reflect how early colonists considered Aboriginal people to be component of the natural environment. Unique cultural heritage and material culture of rainforest Aboriginal people captured the imagination of ethnographers and collectors who obtained decorated shields, hardwood swords, unusual stone tools, bicornual baskets and bark blankets and distributed them to museums worldwide (Buhrich et al. 2016; Erckenbrecht 2016; Erckenbrecht et al. 2010; Ferrier 2006; Greer et al. 2016). Small numbers of Aboriginal people remained living in pockets of dense and impenetrable rainforest, relatively out of reach of European settlement. In the early twentieth Century, the rainforest was considered one of the last havens of ‘traditional’ Aboriginal society, garnering interest from anthropologists such as Ursula McConnel and Eric Mjöberg, who sought to document the ‘last vestiges of a stone age culture’ (Mjöberg 1918 [2015]). The presence of small, tightly bound language estates was a feature of the Aboriginal cultural landscape (Lumholtz 1889), and detailed linguistic work illustrates the complex language boundaries of the Wet Tropics (Dixon 1972, 1976, 1977, 1983, 1991, 2002, 2009, 2015).

This background chapter provides the information needed to understand the physical, historical and cultural contexts of the research. It starts with a description of the terrain, flora, fauna and climate, both past and present. Then, the European history of ‘rainforest Aboriginal culture’ is

presented in historical phases, each phase representing the diverse ways 'rainforest Aboriginal people' and their cultures have been documented, interpreted and represented over one hundred years. The socio-cultural landscape is described, with reference to each of the relevant language groups. The chapter concludes with a discussion of the listed international and national heritage values of the Wet Tropics and their implications for research on Aboriginal cultural heritage.

2.1 The Wet Tropics bioregion

The Wet Tropics WHA stretches for 300 kilometres from north to south between Bloomfield River and Ingham and 50 kilometres inland. The WHA encompasses 8,900² kilometres, which is five times as big as the Australian Capital Territory and 0.12% of Australia's landmass. The study area includes the Wet Tropics bioregion, and also the eastern fringes of the Einasleigh Uplands and Cape York Peninsula bioregions (Figure 2.1). The region contains a mosaic of forest types occupying a complex topography including coastal lowlands, tablelands, escarpments and mountain peaks (Hilbert et al. 2007). This is the wettest part of Australia, with some populated areas receiving over 3000mm average rainfall per year and up to 8000mm on the mountain peaks (Bureau of Meteorology 2016). Rainfall is highly seasonal, with approximately 80% occurring in the 'wet' season months, between November and April. The mountains of the Wet Tropics WHA, which are some of the highest in Queensland, influence the high amount of rain received in this area. Moisture from the southeast trade winds is captured through a process known as orographic lifting which produces heavy precipitation on the eastern and tableland areas with a sharp declining gradient on the western side.

Rainforests have been described as floral 'museums' (White 1994). In the Jurassic period, tropical rainforests dominated the Gondwanan landscape. As the climate became cooler and drier Australian tropical rainforests retreated to refuges, usually pockets of forest on creeks on high mountain tops which provided protection from fire and adequate rainfall. Consecutive ice ages led to the contraction and expansion of the rainforest from their refuge pockets until the current boundaries were established during the Holocene Climate Optimum around 5000 years ago (Hilbert et al. 2007). In 1988, 9027km² the Wet Tropics of Queensland was placed on the World Heritage list for its natural values, recognizing the area as a significant example of a primitive forest type which contains the largest and most diverse concentration of primitive angiosperms (Carmody 2011).

Native title is determined or registered over 80% of the region, making Aboriginal people important stakeholders in the ownership and management of the natural and cultural resources. Over 20,000 rainforest Aboriginal people live in the Wet Tropics bioregion, identifying into 120 clan groups and represented by 70 legal entities, including representative bodies (Cape York and

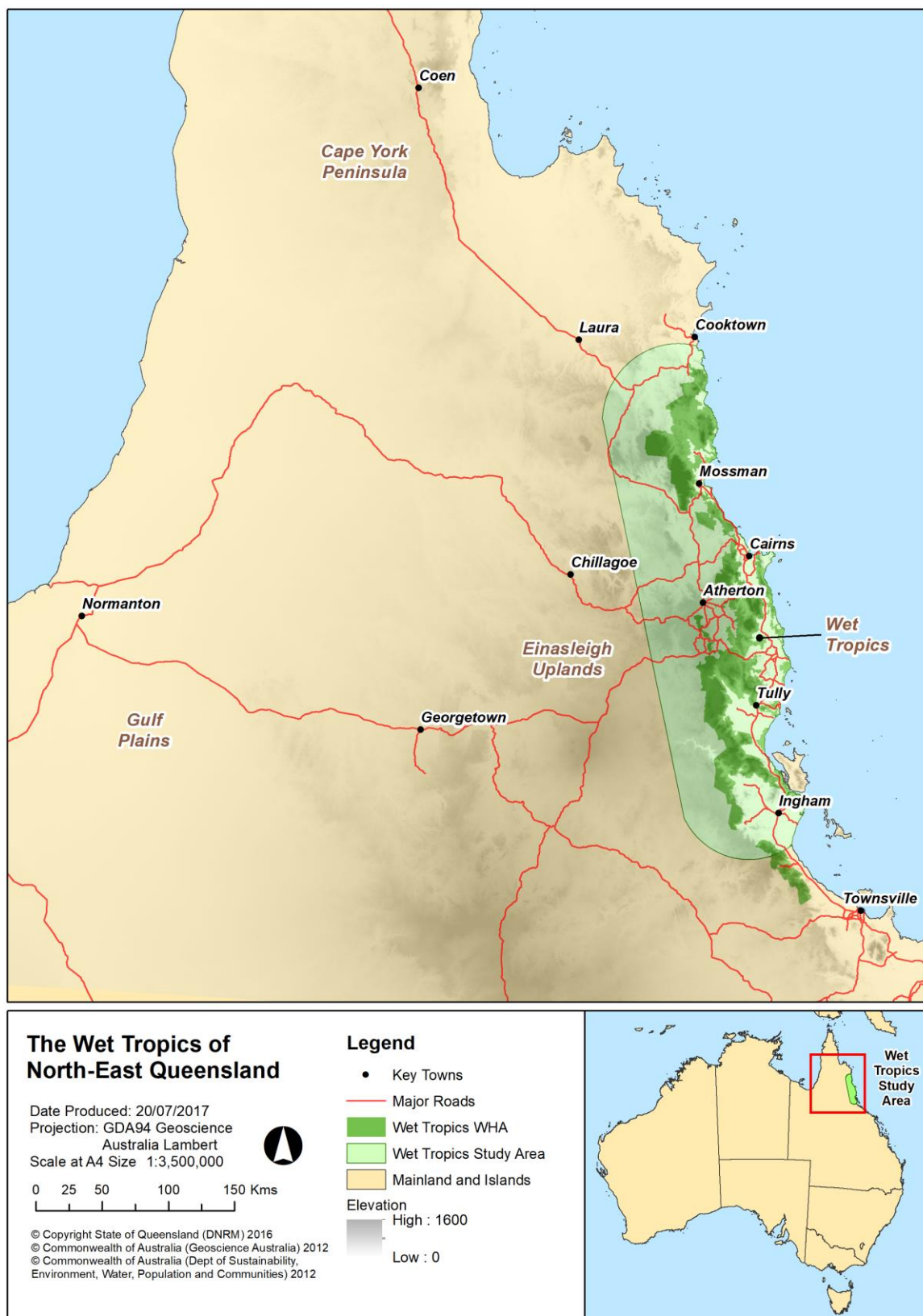


Figure 2.1 The Wet Tropics study area borders on Cape York Peninsula and the Einasleigh Uplands.

North Queensland Land Councils), corporations and land trusts (Pert et al. 2015). Rainforest Aboriginal people have formed a series of representative bodies since 1988, including the Rainforest Aboriginal Council and the Rainforest Aboriginal People's Alliance. Two Aboriginal corporations represent alliances of Aboriginal groups: in the north, Jabalbina represents Eastern Yalanji groups and in the south Girringun representing Jirrbal, Bandjin, Djiru, Girramay, Gugu Badhun, Gulnay, Nywaigi, Warrgamay and Wurungu. Groups work both within the broader governance structures and operate as smaller entities depending on circumstances. Individuals identify with family groups, clan groups, language groups, native title parties or representative bodies and many people operate in multiple spheres.

2.2 Geology and terrain

Geologically the Wet Tropics is part of the Hodgkinson Basin which is bounded by the Palmerville Fault to the west, the Laura and Burdekin Basins to the north and south respectively and the Coral Sea on the east (Tucker 1972). The Hodgkinson Basin was created during the Ordovician to Devonian Periods (440-360 million years ago) when it was a deep trench off the edge of the continental shelf that filled with sediments (Willmott 2009). Limestone accumulated from the detritus of the marine environment, remnants of which formed karsts in the Chillagoe-Mungana and Palmer limestone belts. Compression of the Hodgkinson Basin produced separated bodies of granite, known as the Kennedy Province. More recently, in the Tertiary, volcanic activity has produced the Atherton Volcanic Provinces. The Hodgkinson Basin, Kennedy Province and Atherton Volcanic Provinces form the base geological substrates of the Wet Tropics. The eastern side holds the dense rainforest in steep escarpments that plunge into the Pacific Ocean. On the western side, the rainfall gradient falls sharply and the environment is dominated by open woodland with less permanent water sources.

The East

The eastern escarpment consists of a series of tablelands and mountain peaks between Cooktown and Cardwell. Over thousands of years the rivers such as the Barron, the Mulgrave-Russell, North and South Johnstone and Tully have eroded through the Hodgkinson metamorphic formation to create dramatic waterfalls and valleys. Today, the combination of fertile coastal plains, permanent water and basalt soils makes the central escarpment area the most densely populated in the Wet Tropics.

The northeast mountains and tablelands include Mount Windsor, Thornton Peak, Mount Spurgeon, Mount Lewis, China Camp and Mount Peter Botte which remain largely impenetrable jungle with very few roads and settlements except for the coastal towns of Mossman, Daintree, Cape Tribulation and Bloomfield and the Wujal Aboriginal settlement. Some areas, such as Noah's

Creek, host the longest surviving rainforest vegetation on the planet (Hilbert et al. 2007). Eastern flowing rivers such as the Annan, Bloomfield, Barron and Daintree are typically long and meandering. The course of the Daintree River, for example, is 127 km long, although it measures only 35km from its source on Mount Windsor until it empties into the Pacific Ocean, descending 1,270m over this distance.

Between the Mossman and Barron Rivers, the eastern Wet Tropics becomes a narrow coastal strip, with a string of beaches and steep forested ridges. The coast holds a rich marine environment of mangroves, fringing reefs and sandy beaches with rocky headlands. Numerous creek lines, fed by permanent and semi-permanent springs, descend from the range into the sea (Figure 2.2). The terrestrial environment is open woodland dominated by eucalyptus with littoral rainforest lining creeks, patches of *cycas media*, and paperbark (*melaleuca*) fringed beaches.

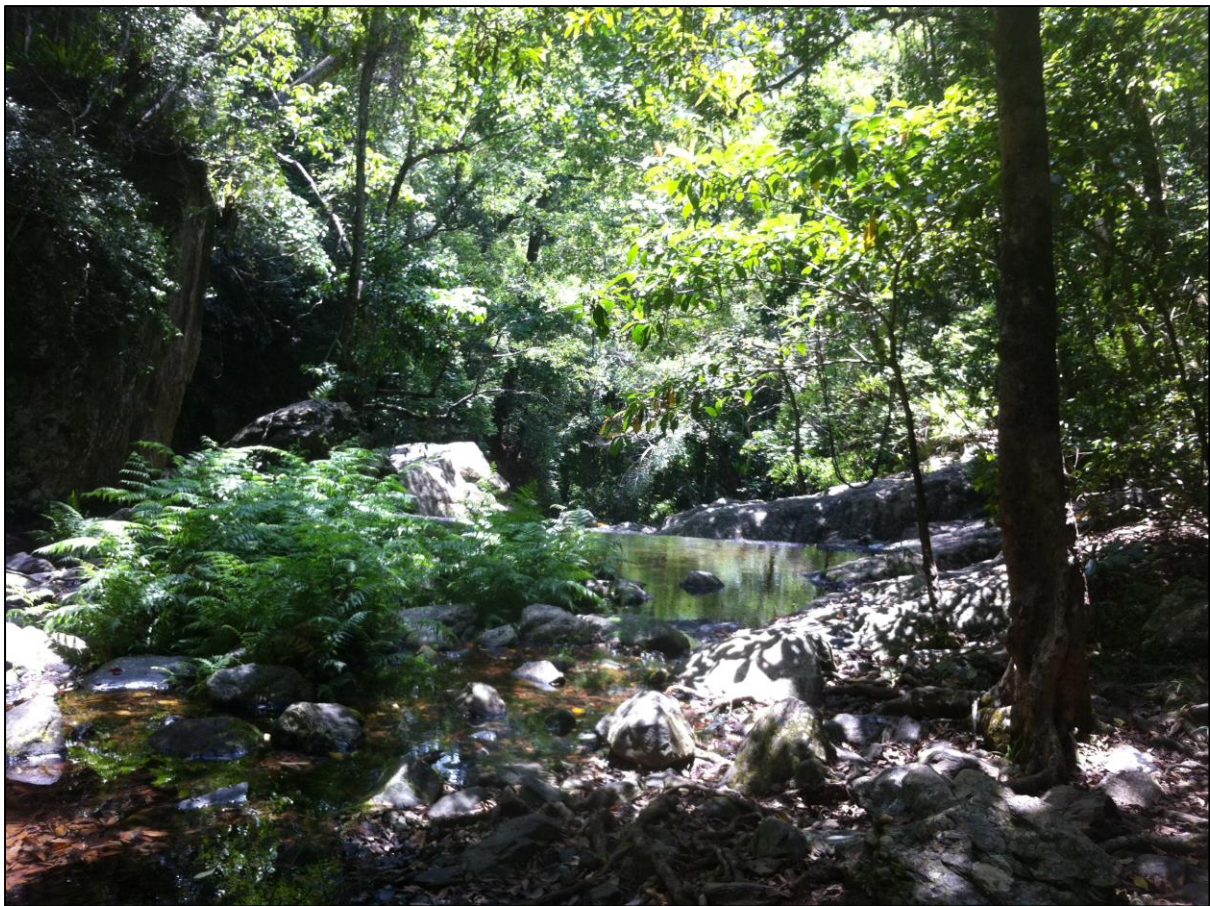


Figure 2.2 Rainforest vegetation, typical in the eastern Wet Tropics.

The Barron River starts in the Atherton Tablelands, before falling dramatically into the Barron Gorge, and emptying into a large lowland delta which featured paperbark swamps and mangrove estuaries before it grew into the regional centre of Cairns. To the south of Barron Gorge is Lamb's Range, another significant granitic body. A major granite outcrop, Kaphalim Rock, sits atop the

Lambs range with views to the north, east, south and west. Small, permanent creeks run off the Lambs range, forming pockets of permanent waterholes and creeks at the fringes of the Range, including Davies, Freshwater and Kauri Creeks.

The Atherton Tableland, and neighbouring Evelyn Tableland are basalt, granite and metamorphic plains at around 800-1000m ASL. They include the highest peaks in Queensland, Mount Bartle Frere and Bellenden Ker which stand over 1000m above sea level and are home to many unique floral and faunal species. The Atherton Tableland was volcanically active until around 10,000 years ago, leaving a series of volcanic craters, cinder cones and shield volcanoes in the landscape. A basalt flow from the Atherton Volcanic Province has overtopped the escarpment in a sloping ramp, separating the Johnstone River into north and south sections (Willmott 2009).

Offshore, the eastern Wet Tropics includes islands and coral cays. The larger islands have a granite geological substrate and were part of the mainland before sea level rise around 6000 years ago. Cays tend to be small, low lying islands made of coral with no rock substrate. Islands formed by basalt outliers are rare, found only near the mouth of the Johnstone River. Although island rock art sites were not visited as part of my research, they are known to exist on granite islands such as Dunk Island (Trezise and Wright 1966).

A series of regional towns and cities have developed over the last 120 years, mainly on the coastal strip and tablelands. These are predominately surrounded by agricultural land with sugar cane the dominant crop. Tourism is the major economy, with nature based tourism centered on the Great Barrier Reef as the primary attraction. The eastern Wet Tropics contains extensive undeveloped land that includes mangrove estuaries and steep forested mountains and escarpments.

The West

The western side of the Wet Tropics slopes from the Great Divide gently towards the Carpentaria Plain. The western side of the Wet Tropics does not have the grand escarpments of the east; river systems quickly dry into perennial water flows and fire-resistant savannah vegetation takes hold. The Wet Tropics holds the headwaters of significant western flowing watercourses, such as the Mitchell-Palmer River system, which starts on Mount Windsor, empties into the Gulf of Carpentaria over 400 kilometres away.

Three major river systems hug the western side of the southern escarpment but flow east into the Coral Sea. The Herbert River begins on the Evelyn Tableland and flows in a giant arc to the west and south before heading east to deposit its waters into the Hinchinbrook Channel. The Burdekin River is a major river system that flows for nearly 900 kilometres, starting on the

Cardwell Range, curving northwards, then westwards and finally east in a large arc and finally flowing into the Coral Sea at Ayr, south of Townsville.

Silver Valley is a typical environment on the western side of the Tablelands. Silver Valley is fed by the Dry River, a tributary of the eastern flowing Herbert River. The area receives an average 1155mm annual rainfall, mostly between December and March. It is the 'dry' side of the wet tropics and ironbarks, bloodwoods, cypress pine and grasses dominate the landscape with few permanent water sources (Figure 2.3). Silver Valley has a complex geology that is composed of tuffaceous sandstone over coarse conglomerate. Siltstone, slate, tin, silver, copper and other formations are found within Silver Valley conglomerate, which makes the area attractive for mineral exploitation.



Figure 2.3 The western Wet Tropics is dominated by open woodland.

A limestone outcrop at the far northwest of the study area, Melody Rocks, is included in the northern escarpment area. The limestone outcrop, on the Normanby River system, was laid during the Devonian to Early Carboniferous period, and rises from an open woodland environment. The plains and small undulating hills surrounding Melody Rocks are dominated by ironbark (rough bark *eucalypts*) and other species typical of Cape York Peninsula while vine thickets grow along the creek line. Fire resistant species including kapoks (*Cochlospermum fraseri*) and kurrajongs (*Brachychyton* species) grow in the limestone outcrop. The headwaters of Wallace Creek commence in the limestone karst which eventually joins the Normanby River catchment and flows north, incorporating the Laura and Deighton Rivers before emptying into Princess Charlotte Bay.

2.3 People in the Wet Tropics landscape

When people first arrived in north Queensland the Late Pleistocene landscape was very different. Australia and New Guinea were joined as the single continent of Sahul, the Gulf of Carpentaria was a large freshwater lake surrounded by extensive savannah grasslands and the northeast coast of present day Queensland extended around 50 kilometres eastward to the edge of the continental shelf (Moss and Kershaw 2000). During the last 50,000 years the rainforest has expanded and contracted in response to changing temperatures and rainfall. During the Last Glacial Maximum (LGM) around 18,000 years ago, the climate was relatively dry and cool, and the rainforest contracted significantly (Hilbert et al. 2007). The climate became warmer and wetter during the Pleistocene / Holocene transition until the optimum rainforest conditions around 5000 years ago (Hilbert et al. 2007).

Evidence of people in the Wet Tropics comes from four strands of research: palynology, charcoal, oral history and archaeological excavations (see Table 2.1 and discussed in the following section). Palynologists have targeted pollen records from swamp craters, such as Lynch's Crater on the Atherton Tableland, because they preserve pollen and charcoal particularly well. Pollen cores show a substantial change in pollen and charcoal ratios, reflecting replacement of rainforest plants with sclerophyll vegetation, from 45,000 years ago (Turney et al. 2001). Turney (et al. 2001) suggest that changes in pollen and charcoal patterns are not attributed to climatic change and therefore are most likely anthropogenic.

Evidence of burning has also been taken from surface charcoal fragments collected from across the region. Radiocarbon dated charcoal fragments identify progressive but intermittent burning from 20,000 to 12,000 years ago, which could be attributed to anthropogenic activity (Hopkins et al. 1993). Eucalypt woodlands were at their maximum extent between 13,000 and 8,000 BP, which may have also been the peak of Aboriginal burning practices in the Wet Tropics (Hopkins et al. 1993), although without stratified data the links to anthropogenic burning are problematic (see Roberts and Petraglia 2015). For example, an analysis of datasets from across Australia found no link between archaeological and charcoal data at a regional or continental scale over the last 20,000 years, concluding that Aboriginal people's use of fire had a minor role in changing the environment and if anthropogenic burning was used, it was only a short-lived behaviour (Williams et al. 2013). The Atherton Volcanic Province was active during the Late Holocene and probably created extensive forest fires (Hilbert et al. 2007).

Table 2.1 Evidence of occupation of Queensland's Wet Tropics.

| | Palynology (Moss et al. 2012; Turney et al. 2001) | Surface charcoal (Hopkins et al. 1993) | Archaeology (Cosgrove et al. 2007) | Oral History (Dixon 1972) |
|---------------|---|--|--|--|
| Pleistocene | | 140,000 BP Replacement of rainforest with open woodland | 50,000 BP Arrival of people on Australian continent | |
| | 38,000-26,000 BP Change in charcoal rate indicates anthropogenic burning | From 20,000 BP (27,000 on Windsor Tableland) intermittent anthropogenic burning 13,000 - 8000 BP Maximum Eucalyptus invasion | 30,000 BP Small rate of cultural deposits at 1 rock shelter on western edge of rainforest | 10,000BP Last volcanic eruptions on Atherton Tableland |
| | 9500 - 7500 BP Rainforest - sclerophyll boundary becomes relatively stable | From 8000 BP Lower rates of charcoal | 8000 BP Low levels of occupation 8-6000 BP Hiatus in occupation | Sea level rise - ranges become islands e.g. Fitzroy Island |
| | OPTIMUM RAINFOREST CONDITIONS | | | |
| | 5000BP Onset of ENSO | | 4000 BP Early permanent settlement of the rainforest | |
| Late Holocene | After 2000 BP Drier conditions | | 1500 - 1000 BP Peak occupation | |

Aboriginal oral history also provides tantalizing evidence of Pleistocene rainforest occupation. The Ngadjon myth of the creation of Lakes Eacham, Barrine and Euramo was documented by Dixon (1972) who believed it to be a representation of the volcanic activity that formed the crater lake. In the Ngadjon legend, two men broke a taboo at a campsite and angered the rainbow serpent who responded with thunder and wind, cracking open the earth and turning the sky red (Dixon 1972:28). On the coast near Cairns Yidinji people have names for places long submerged by sea. Dixon (1977) has translated some of these, including *mudaga* named after the pencil cedar trees that used to grow in that location, and *gabar* (now Fitzroy Island) which means 'lower arm', which is the only remaining part of the mountain range above water today. Reid et al. (2014) have compared the submerged topography between Fitzroy Island and the mainland to demonstrate the Yidinji descriptions of the landscape correspond to the exposed topography around 13,000 years ago. Comparing Aboriginal oral history with landscape reconstructions provides a compelling argument for the permanent occupation of the rainforest in the Late Pleistocene, however at this stage it appears at odds with archeological evidence.

2.4 Occupation of the Wet Tropics

Archaeological evidence provides the most reliable data on Aboriginal occupation of the rainforest, although excavations of rainforest sites have been limited to a small number of sites. It has been proposed that people began to occupy the well-watered rainforest environment of the Wet Tropics as increasing aridity and temperatures made western (savannah) environments increasingly uncomfortable (Cosgrove et al. 2007). The ability to process a range of seeds and nuts, some of which were highly toxic, provided an important food resource for large numbers of people who lived mostly sedentary lives occupying a niche environment (Cosgrove et al. 2007; Ferrier 2015; Field et al. 2016; Horsfall 1987).

The oldest direct dates for occupation in the Wet Tropics is from Murumbun Shelter, on the western margins of the rainforest, where low occupational debris was found in a granite rock shelter dated to 30,000 years (Cosgrove et al. 2007). The low rate of archaeological material from Murumbun Shelter suggests it was used very rarely during the Pleistocene, when the surrounding environment was dry sclerophyll and there was a complete hiatus of occupation between 11,245 years BP and around 4700 years BP (Cosgrove et al. 2007). Archaeological excavations at Urumbal Pocket, on the Evelyn Tableland, suggest people started to visit the rainforest more regularly around 8000 years ago, although occupation debris indicate this was at very low levels (Cosgrove et al. 2007). After 8000 years there is a complete hiatus of human activity in the rainforest for 2000 years coinciding with higher rainfall and lower temperatures. This would have been an optimum time for living in the well-watered savannah environment to the west (Cosgrove et al. 2007). Around 5000 years ago ENSO instability increased. The western savannah

became increasingly arid and hot, and the cooler rainforest became more attractive, particularly because of the permanent water sources.

Major changes took place in rainforest settlement patterns in the mid-Late Holocene. The ability to process toxic rainforest seeds, which appear in the archaeological record from around 4000 years ago, appears to have facilitated permanent settlement of the rainforest environment (Cosgrove et al. 2007; Horsfall 1987). Low-level use of rainforest environment continued until 2000 years ago, after which there is a dramatic increase in occupation debris, thought to coincide with steep population increases. From 1500-1000 years ago rates of discarded nutshell, charcoal, quartz and ochre peaked at both Jiyer Cave and Urumbal Pocket (Cosgrove and Rayment 2002; Ferrier 2015; Horsfall 1987). By the Late Holocene, and possibly earlier, people were also using rock shelters in the Kennedy Valley, open sites on Mulgrave River and coastal shell middens at Innisfail (Brayshaw 1990; Cosgrove et al. 2007; Horsfall 1987).

The four strands of evidence provide a pattern of rainforest occupation from the Pleistocene to the present. Between 30,000 and 20,000 years ago rainforest sites were visited rarely, but it is possible there was extensive anthropogenic burning of the rainforest promoting eucalypt growth (Hopkins et al. 1993; Turney et al. 2001). From 8000BP to 6000BP there was little use of the Wet Tropics as the wet and mild climate provided better conditions elsewhere (Cosgrove et al. 2007). The combination of ENSO associated weather patterns and the ability to process toxic rainforest seeds led to permanent occupation of the rainforest from the mid-Holocene, peaking in the Late Holocene around 1500-1000 years ago (Cosgrove and Rayment 2002; Ferrier 2015; Horsfall 1987). Although visited occasionally in the Pleistocene, the Wet Tropics appears to be one of the last environmental zones to be permanently settled, with significant permanent occupation probably only in the last two thousand years (Cosgrove et al. 2007; Field et al. 2016; Turney et al. 2001).

2.5 The arrival of Europeans 1770-1873

In 1770 Captain Cook had sailed the *Endeavour* through the Great Barrier Reef adjacent to the Wet Tropics. The *Endeavour* anchored near Cape Grafton overnight, near the present day Yarrabah Aboriginal Community. Local legend says the *Endeavour* lost an anchor here, which was later retrieved by a Yarrabah resident and depicted in a rock painting (Thompson 1989). Captain Cook and botanist Joseph Banks went ashore for a brief time and collected botanical specimens and noted the presence of people on the shore and campfires at night (Cook's journal Sun 9 1770). The following day the *Endeavour* struck a coral cay and began to take on water. Cook's concerns are etched into the landscape of the northern Wet Tropics in the places he named, including Cape Tribulation, Mount Sorrow, Mount Disappointment and Weary Bay, before the boat limped into

the Endeavour River for repairs, 50 kilometres north of the Wet Tropics, in the Gugu Yimmathirr estate.

Captain Philip King sailed past the Wet Tropics three times between 1818 and 1822. On his first expedition, heading to the Torres Strait in June 1818, King spent six days sailing the coast of the Wet Tropics. In Rockingham Bay, King (1827) describes a lively and mutually agreeable exchange of goodwill, fish hooks and line for baskets and turtle pegs with a group of men who approached his ship by canoe and came aboard for half an hour. According to King (1827:201), the locals left 'highly delighted with themselves and the reception they had met with', and subsequently invited the sailors to their camp. It appears from King's descriptions that rainforest Aboriginal people kept clear of King and his men when they stopped at Cape Grafton, Fitzroy Island and Dunk Island. Although King found walking tracks, middens and charcoal from fire on the islands he had little contact with rainforest Aboriginal people north of Rockingham Bay.

Edmund Kennedy was the first European to attempt an overland expedition through the Wet Tropics. On 21 May 1848 Kennedy landed at Rockingham Bay, with a crew of thirteen men, 28 horses, 100 sheep and 4 dogs. The team spent nine weeks finding a route through the mangrove swamps, rainforest and high mountain valleys. This was an extreme set-back for Kennedy and his team, who were still struggling to find their way through the rainforest when they were due to meet their supply ship over 200kms north at Princess Charlotte Bay. Kennedy's expedition was documented by botanist and one of two expedition survivors, William Carron. Carron (1849:20) described the local people showing great interest in the party, expressing great surprise at the livestock, which they had not seen before, but not at the Europeans, who they had frequently seen landing at the beach from surveying vessels.

The natives appear to be very numerous in the neighbourhood of Rockingham Bay. There was an old camping place with twelve or fourteen old gunyahs¹ near our camp, but it was not visited by the natives during our stay there. They generally came to look at us every day, but always kept at a distance; on some days we saw as many as from eighty to a hundred. The women and children always kept farther from us than the men; I think more from fear of our dogs and horses than of ourselves.

Carron spent some time when they first arrived, exchanging language names for fishing equipment and expedition items with the local Aboriginal people. Expedition members and local

¹ Dwelling

Aboriginal people appear to have had good relations. At times, the local Aboriginal people helped Kennedy and his men, by showing the best ways to cross rivers and by carrying their packs (Carron 1849). This assistance was rewarded with small presents by Kennedy and his men and gifts of fish hooks and circular tin plates were received with immense pleasure. At one stage one expedition member absconded from his group with some of the expedition's supplies, spending two days sharing his stolen food with the local Aboriginal people before returning to Kennedy's group (Carron 1949). Beyond the Cardwell Range, Carron describes the Aboriginal visits becoming more menacing and shots were used to frighten advancing Aboriginal people, including people with spears and 'warpaint' (Carron 1849).

The settlement of Cardwell was established in Rockingham Bay in 1864. This it was the only European community north of Bowen, settled by a small number of men with the intention of taking up pastoral selections in the hinterland. Surveyor, Elphinstone Dalrymple, was one of the members of the settlement. Dalrymple was struck by the beauty of the Wet Tropics, which he compared to the 'beautiful mountain villages of Ceylon or of the islands of the Pacific' (Dalrymple 1865:205). On an expedition into the hinterland of Cardwell, Dalrymple (1865:205) described 'a broad hard-beaten path of the blacks' with old and recent bora grounds (open pockets of grassy areas used for camping or as a meeting ground) dotted across a verdant forest valley. Shipwreck survivor James Morrill acted as interpreter for the Europeans. He had spent 17 years with Bowen tribes, and although the languages spoken at Cardwell were different to those spoken at Bowen, Morrill was able to be understood.

Dalrymple makes no mention of conflict with the local Aboriginal people but Sub-Inspector Johnstone (1874), his third in command, records his own dispersals and attacks at South Johnstone and further north. This discrepancy in reporting relationships with local people probably reflects the separate roles held by the two men – Dalrymple was tasked with surveying for possible ports for future development potential while Johnstone oversaw defense and commanded a troupe of native police. Both men record extensive bora grounds, Aboriginal camps, boldly decorated shields and other artefacts including mummified remains, which Johnstone (1904:46) considered 'too great a prize for the Museum to leave behind'. The interest in rainforest Aboriginal collections had begun.

Dalrymple continued his flamboyant descriptions of the northeast Queensland environment during a subsequent coastal survey from Rockingham Bay to Double Island. Describing an imaginary bora Dalrymple (1874:13) says:

To suddenly come in sight, up the reach, of such a gathering in the dark night – the ruddy glow of the campfires lighting up the swarthy, dancing savages in their war

paint, accompanied by the yell and gutturals of their war coroborries – would be a sight indescribably wild and picturesque.

Dalrymple described local Aboriginal people as powerful yet wrote that there was an understanding, conveyed by Morrill, that the Europeans would be taking hold of a portion of the land. Dalrymple was present on the overland expedition to the Valley of Lagoons, and sent back optimistic reports of the potential for agriculture and pastoral activities. No doubt Dalrymple's descriptions were tainted by his interests in 'opening up' the north and his desire to showcase the areas economic potential to southern investors.

2.6 Prospectors and naturalists 1873-1896

Within 10 years of Dalrymple's glowing descriptions of the tropical rainforests, settlements were established at Cairns, Herberton, Geraldton (Innisfail) and Island Point (Port Douglas). The settlements were isolated, at the edge of the expanding frontier, connected only by rough pack tracks and home to rough and unruly men. One of the early explorers of the remote corners of the terrestrial rainforest was Christie Palmerston, who provided descriptive accounts of the landscape and Aboriginal people during his search for minerals between Innisfail, Herberton and Daintree. Palmerston's diaries, published in 1887, were probably influenced by his ambition to present himself as a 'courageous adventurer', but they do provide some insight into the daily lives of Aboriginal people. Palmerston was apparently embroiled in a dispute between his packers, Mamu people, and their Malanbarra neighbours when he was encouraged to lead a dawn attack on the Cockatoo bora in the Mulgrave Valley. Although Palmerston's diaries, and most subsequent historical accounts (e.g. Bolton 1963; Savage 1989; Woolston et al. 1967) present a highly sanitised version of actual events, Aboriginal oral history documented by Dixon (1997) describes Palmerston's violent depredations against the Aboriginal people he encountered.

Another prospector, Michael O'Leary, published his own diaries in the 1880s as a series of newspaper reports under the pen name 'Coyyan' while prospecting for alluvial gold on the Evelyn Tableland (Ferrier 2015). O'Leary's writings describe the devastating effects of Europeans and government policy on Aboriginal people and culture in the upper Tully River, perhaps attempting to educate readers on the dramatic effects of Europeans arrival in the rainforest (Ferrier 2015). These are probably more accurate representations of the Aboriginal people he employed and their ways of life.

Naturalists, drawn by the unusual flora and fauna, provide valuable ethnographic information that they documented as part of their scientific reports. Carl Lumholtz, for example, made numerous observations of the local Aboriginal people during his zoological and anthropological expedition to the Herbert River. Presumably his observations of Aboriginal people and their

habits were more impressive than the fauna he was initially seeking, as he dramatically titled his 1889 account of his explorations 'Among Cannibals an account of four years' travels in Australia and of camp life with the Aborigines of Queensland'. Lumholtz's ethnographic observations included customs such as burials, sorcery, religion, artefacts and a single rock painting. Lumholtz made his base at Herbert Vale, an outstation of Henry Stone's pastoral interests in the Cardwell hinterland. His observations of Aboriginal life, both on the fringes of white society and in remote rainforest locations, provide an excellent insight into the early impacts of European settlement on rainforest Aboriginal people. Lumholtz describes an established cedar cutting economy that was destroying large trees and affecting bird colonies. His descriptions of the interactions between the Aboriginal camp and the outstations that he stayed are probably typical of 'pacified' Aboriginal groups of the time. After a period of intense conflict, some settlers started to allow Aboriginal people to camp on their stations, a practice known as 'letting in'. Lumholtz (1889:71) describes one such settler:

In the uncivilised districts the relations between the whites and the blacks are as bad as possible, in the remote districts the natives are treated almost like brutes. Still there are persons who take an interest in them (the 'protectors of the blacks') and Mr Gardiner was one of them. He always had work for them on his farm, he furnished them with tools, and frequently went with them, cutting down trees, building fences, and the like. Payment was in flour, sugar and tea and especially tobacco, when available, he gave them meat. While the men worked, the women also received foodstuffs. People would come and go from the camp on his farm, but there was always a camp there.

The Mbabaram were among the first to make a formal agreement to cease attacks on settlers and cattle in exchange for food and blankets in a truce negotiated by the Herberton police constable in 1889. In recognition of the impact of the Europeans' arrival on the hunting grounds of the Mbabaram, it was agreed that Europeans would supplement the Mbabaram food supply in exchange for the cessation of attacks on settlers and their property (Loos 1978:241).

Lumholtz was particularly interested in relationships between the settlers and Aboriginal people, describing the places he stayed on both the fringes of European settlements and more traditional camps. He talked of the systems of justice operating at the time - both justice by Aboriginal people against whites and white people against Aboriginal people. He differentiated between tribes, clans and family groups and described the Herbert valley tribe as having an area of 40 x 30 miles, within which were sub-clans who also had distinct boundaries. While clans and family groups were allowed some movement within the broad tribal estate, movement beyond the tribal estate

was not permitted on fear of death. Lumholtz documented language, song and body scars. He noted differences between the dialects of tribal groups. He claimed people sang songs in different languages without knowing the meaning of the words and considered this evidence of exchange across large distances. Lumholtz (1889:89) wrote a detailed account of the process used to climb the large rainforest trees (Figure 2.4):

The Australian black on the Herbert River was more skillful in climbing than any of the other natives I had seen up to this time. If he has to climb a high tree, he first goes into the scrub to fetch a piece of the Australian calamus (*Calamus Australis*), which he partly bites, partly breaks off...At one end he makes a knot, the other he leaves as is. The cane is called a *kamin*. He wraps the *kamin* around the tree, and one end around his right arm. With his back arched back he walks up the tree by throwing the *kamin* around the trunk. He stops to take breath every couple of steps, it's hard work. Smooth bark he chops a niche. Takes his tomahawk in his mouth, when he wants to use it he unwraps the *kamin* from his arm and onto his leg.



Figure 2.4 Aboriginal men at Ravenshoe demonstrate tree climbing with *kamin* (courtesy of Cairns Historical Society).

Lumholtz's writing follows the 'noble savage' style. Reading Lumholtz one would assume cannibalism happened every other day, but Lumholtz does not seem concerned about being eaten himself. The two key items appear to be his rifle, which he fired every single day from his tent to instill fear in his companions, and tobacco, a most favoured trade good.

Archibald Meston also documented his travels through north Queensland's rainforest in 1889, when the government funded his scientific expedition to the peaks of Bellenden-Ker and Bartle Frere. Known to be prone to exaggeration, on reaching what he claimed to be the peak of Bellenden Ker, Meston et al. (1889) describe the extensive plantations of the Mulgrave and Russell Rivers, and the sound of explosives blasting the Cairns Railway in the Barron Gorge. It is unlikely Meston could actually hear the railway blasting from that distance. Rather, his writing was probably intended to illustrate the march of civilisation at the edge of the colony, more than to document the actual events. Meston's team camped in abandoned bora grounds, evidence that by 1889 Europeans had already taken over Aboriginal walking tracks and clearings, at least in the Russell River area. He describes the use of Aboriginal labour on the Russell River mining field, and their contribution to agriculture, noting about 200 Aboriginal people worked casually on the Johnstone River plantations.

In 1895, Meston produced an ambitious 'Geographic History of Queensland' which included history of exploration, politics, economy, flora, fauna, geology, geography as well as descriptions of Aboriginal people, their relationship with European settlers, missionaries and native police, ceremonial life and artefacts. Meston's ambition to be seen as the expert in all matters, as well as his propensity to exaggerate the details, somewhat reduces the value of his ethnological work. However, Meston's recommendations for Aboriginal protection were highly influential in the development of the Queensland *Aboriginal Protection Act and Restriction of the Sale of Opium* of 1897 (hereafter referred to as the Aboriginal Protection Act) and subsequent forced removals of Aboriginal people to missions and reserves.

Further north, during his ascent of Mount Peter Botte near the Daintree River, Le Seouf's (1896:157) description of the natural environment also commented on the habits of his Aboriginal companions, including what they cooked, how they slept, hunted and prepared food. Most of his Aboriginal companions had abandoned the climb by the time they reached the peak, much to Le Seouf's disappointment. Although not mentioned in his written description, Le Seouf's photographic record includes a rock painting of a ship (discussed in Chapter 3). Frank Hislop, accommodated and accompanied Le Seouf. Hislop's property, Whyalla, had long been considered a safe-haven for Yalanji people. Hislop had married a Yalanji woman and later provided much of Roth's information on Bloomfield ethnography and ethnology (Wood 2016a).

Meanwhile Cairns photographers, Derwent, Handley and Atkinson, were creating visual records of the expansion of the white frontier including the Cairns railway construction, government buildings and Aboriginal cultural heritage. Although many of the photographs of Aboriginal rainforest people and their material culture appear highly contrived, with artefacts displayed to the camera and semi naked Aboriginal people, these photographs provide valuable information on rainforest culture including shield designs, housing and artefacts.

2.7 Protection era 1897-1930s

Aboriginal Protectors were government employees appointed under the Aboriginal Protection Act to oversee the protection of Aboriginal people in Queensland. Walter Roth held the Northern Aboriginal Protector position from 1897 to 1904, when he became Chief Protector. Roth had been trained in medicine and served as a Medical Officer/Surgeon in Boulia, Cloncurry and Normanton, where he wrote his first book, an ethnological investigation of Aboriginal people from northwest Queensland (Kahn 1993:11). Based on Roth's demonstration of humanitarian, scientific and ethnographic skills in northwest Queensland he was offered the position of Protector of Aborigines for the Northern District, from Cardwell north, much to the dismay Archibald Meston, who was given the role of Southern Protector. Meston (1896) considered the north held the most challenges for Aboriginal Protectors, while Aboriginal tribes in the south had already been controlled.

On his appointment, Roth was relocated to Cooktown, where he was instructed by Parry-Okeden to (cited in Kahn 1993:12) to:

Make all possible enquiry concerning local aboriginals, numbers, disease, present condition, measurements, photographs etc. Collect all information re their 'walkabouts' and trade routes so as to learn the boundaries of their territories, gather all particulars concerning friendly and hostile neighbours, making from time to time such local collection of ethnological and anthropological interest as is possible.

There were three key aspects that made Roth's work particularly valuable. He was a trained medical officer and recorded ethnography with scientific rigour; he was a meticulous collector of objects and information; and, as Northern Protector of Aborigines, he had unprecedented access to Aboriginal communities (McGregor and Fuary 2016). Roth published a series of scientific reports including Annual Reports from the Northern Protector, Queensland Parliamentary Papers and the Records of the Australian Museum on artefacts, beliefs and habits from across northern Queensland (Roth 1901-06, 1910). Roth's detailed ethnographic accounts described a wide range of cultural phenomena, from body scars to watercraft to trade and exchange routes,

language and ceremonial rituals. Roth's work includes a comparison of material culture and custom from various parts of north Queensland, which provides a useful geographic comparison of technology and customs. Roth also amassed a large collection of Aboriginal artefacts. The combination of objects and Roth's written descriptions about how the objects were made and used in Aboriginal societies, make Roth's work especially valuable.

Roth was highly respected by his colleagues, but also criticized, particularly for his vocal concerns about the treatment of Aboriginal people as well controversial photographs and descriptions of copulation (McGregor and Fuary 2016). During Roth's time as northern Protector, Native Police controlled many corners of the expanding Queensland colony. At times, his recommendations came into conflict with the Police Commissioner and the interests of white pastoral land holders. The Queensland Parliament received several complaints about Roth's activities and his perceived support for Aboriginal people, including a petition from Cooktown residents to remove him from his position as Protector, which eventually led to his resignation.

North Queensland residents also published information on Aboriginal cultural heritage. E.J. Banfield (1908) wrote of his experiences while living on Dunk Island, including visiting Aboriginal rock art sites. *The North Queensland Naturalist*, a local publication featuring articles on mainly flora and fauna of the rainforest area, included reports on Aboriginal stone tools and plant use. From Banfield's description it can be inferred that there were no Aboriginal people living independently of European settlement on Dunk Island by 1908, and this is probably also true for the adjacent mainland.

European collectors such as Herman Klaatsch in 1904, and Eric Mjöberg in 1912 were partly driven by the assumption that the Aboriginal 'race' was 'doomed to extinction' (Erckenbrecht et al. 2010). They considered the artefacts remnant evidence of a 'dying race' and amassed large collections of artefacts for sale to European museums (Erckenbrecht et al. 2010; Erckenbrecht 2016; Ferrier 2006; Greer et al. 2016; McGregor 1997). The idea of a 'rainforest people' appears in the account of Mjöberg's 1913 expedition to Queensland's tropical rainforests, where his objective was, in part, to document the rapidly disappearing 'Stone Age' people (Mjöberg 1918 [2015]). For Mjöberg, the tropical rainforest started at Mount Tambourine, near Brisbane, but the genuine rainforest area was around Cairns with the Atherton Tableland as its heart. Mjöberg believed the differences he observed in rainforest people's physical appearance and material culture to be the result of their adaptation to the unique environment. In 1912 Mjöberg (1918 [2015:135]) used the 'small, well-trodden' Aboriginal walking tracks to access the rainforest around Ravenshoe. He reported that rainforest Aboriginal people were heavily influenced by the missionaries and mostly living in town camps (at Ravenshoe) and humpies (on the Mulgrave

River). Only the oldest Aboriginal people continued to live in traditional camps, with artefacts they attempted to protect from collectors such as Mjöberg (1918[2015]:266). However, Mjöberg still managed to amass a large collection that included the last outrigger canoe in Cairns' (1918 [2015]:325).

The government Forestry Branch opened as part of the Lands Department in 1900 and this became an independent Forestry Service in 1920, coinciding with the recruitment of returned WWI soldiers (Dargavel and Moloney 1997). Over the next sixty years state forests were systematically surveyed by government forestry employees whose jobs included marking individual trees for harvesting, estimating the value of stands of timber and identifying potential tracks, clearings and preservation areas. National Parks were separated from Forestry Reserves in 1975, partly from pressure on the Bjelke-Peterson government to manage the diminishing timber reserves (Bottoms 2016:556). By the 1980s forestry was the most valuable economy in north Queensland.

2.8 Segregation 1930s – 1970s

From the 1930s to the 1950s the Aboriginal Protection Act was firmly entrenched in the Queensland legal system, controlling virtually every aspect of Aboriginal people's lives. Anthropologist Ursula McConnel (1930, 1931, 1935), *en route* to western Cape York Peninsula, collected stories and objects from Yarrabah and the Bloomfield River. McConnel (1935: 52) recognized what she described as 'the problem of authenticity in the Christian era' but nonetheless was able to identify a number of totemic designs painted on shields and patterns which she associated with the totemic stories of the Kongandji (today spelt Gunngandji) people. She documented the role of the shield as an initiation marker for young men and the relationship of certain symbols with an individual's *bulurru*, or Dreaming. McConnel was able to procure freshly made and decorated shields on relatively short notice, suggesting these items may have already been in production for the tourist trade.

There was also an interest in the collection of medical samples and personal information from rainforest Aboriginal people. In the 1930s Tindale and Birdsell (1941) collected blood samples, cranial measurements and photographic images which were organised by 'genetic class' and catalogued using 'Anthropological Data Cards'. The data was used to argue that rainforest people were a separate genetic class of people they termed 'Barrinean' and 'Negrito' (Birdsell 1993: 35-6; Tindale and Birdsell 1941). The 'Barrinean' theory proposed that a pygmoid race existed in Australia when modern Aboriginal people arrived. It was argued that pygmoid people were pushed into the rainforests of north Queensland (Barrineans) and Tasmania (Tasmanoids) by modern Aboriginal people. DNA research, linguistic evidence, cranial measurements and blood

group analysis has dismissed the Barrinean theory (Horsfall 1984:165; Rule 2010). It is more likely that the small physical size of rainforest people was a result of a protein poor diet, rather than a lack of “Insulin-like Growth Factor-1” as proposed by McAllister (2010:11). This would also explain why McAllister was unable to locate any ‘pygmies’ in the north Queensland rainforest, only three generations after Tindale and Birdsell first proposed the theory.

One of the significant contributions from Tindale to Australian archaeology was his map of Aboriginal tribal boundaries across the country. The boundaries Tindale identified in north Queensland, superimposed on a Cairns tourism map with the title ‘Tribes N.Q. Tindale’s 1938 data with additions 1972’ (Figure 2.5) shows 15 tribal areas in the area we now call the Wet Tropics.



Figure 2.5 Tindale’s map of Cairns Aboriginal language groups (AA338/19/45 Tribal Boundaries in Aboriginal Australia, 1974 [cropped], courtesy The South Australian Museum).

The 1950s was the 'the Indian summer of the artefact collectors and typologists' who travelled across state boundaries 'untrammelled either by ethical considerations or by regulations' (Mulvaney 1981:18). Presumably nor were they challenged by Aboriginal people who were exiled to missions and reserves and therefore absent and powerless to stop the cultural theft. The result was that non-Indigenous individuals amassed large ethnographic collections which were dispersed to museums and individuals in Australia and beyond. Doug Seaton was a collector and an enthusiastic rock art recorder living in the Cairns area during the 1950s. During his 'Indian summer', Seaton collected artefacts, recorded sites and transcribed stories from Djabugay, Yirrganydji and Gunggandji informants, which he reported in the *North Queensland Naturalist* (Seaton 1951, 1952a, 1952b, n.d.). He collected oral history from Bulwandji informants and completed the first systematic recording of the *Bunda Bibandji* art motifs (1951), described in detail in Chapter 3.

Linguistic research began in the Wet Tropics when R.M.W. Dixon began recording rainforest Aboriginal languages in the 1960s, work which he continues with Aboriginal elders today (1976, 1983, 1991, 2009, 2015). Dixon divides his work into two stages – language documented with native speakers and language documented when only a few native speakers remain (1991). When Dixon started recording rainforest languages in the 1960s he quickly became aware of incompatible grammar between Yidin/Djabugay and Dyirbal speakers, whose boundary he identified at Russell River (Dixon 1983) (see Figure 2.6). After further linguistic fieldwork Dixon surmised the Kuku Yalanji language, spoken north of Port Douglas, is not related to either Yidin/Djabugay (spoken from Port Douglas to Babinda) or Dyirbal languages (spoken from Innisfail to Ravenshoe). Dixon's language boundaries in the Wet Tropics virtually mirror Tindale's 1938 tribal areas but his linguistic model contradicted the 'cultural bloc' theory, presented by Tindale and Birdsell (1941), that rainforest Aboriginal people shared social, cultural and genomic traits. On the contrary, the linguistic evidence suggests a rich tapestry of Aboriginal social landscapes.

2.9 Academic investigations 1977-1992

During the 1970s and '80s Dixon refined his models of the relationships between rainforest Aboriginal languages. He developed a view that the extreme differences between languages from the north and south of the rainforest suggests the region was settled from two different directions, with Dyirbal from the south and Yidin from the north, sharing a boundary at the Russell River (Dixon 2009, 2015). The Russell River coincides with the boundary of creation legends, with oral history describing ancestral arrivals from the south (Dyirbal south of the Russell River) and the north (Djabugay and Yidin north of the Russell River). This led Dixon (1996) to conclude the rainforest was settled from different directions by people speaking

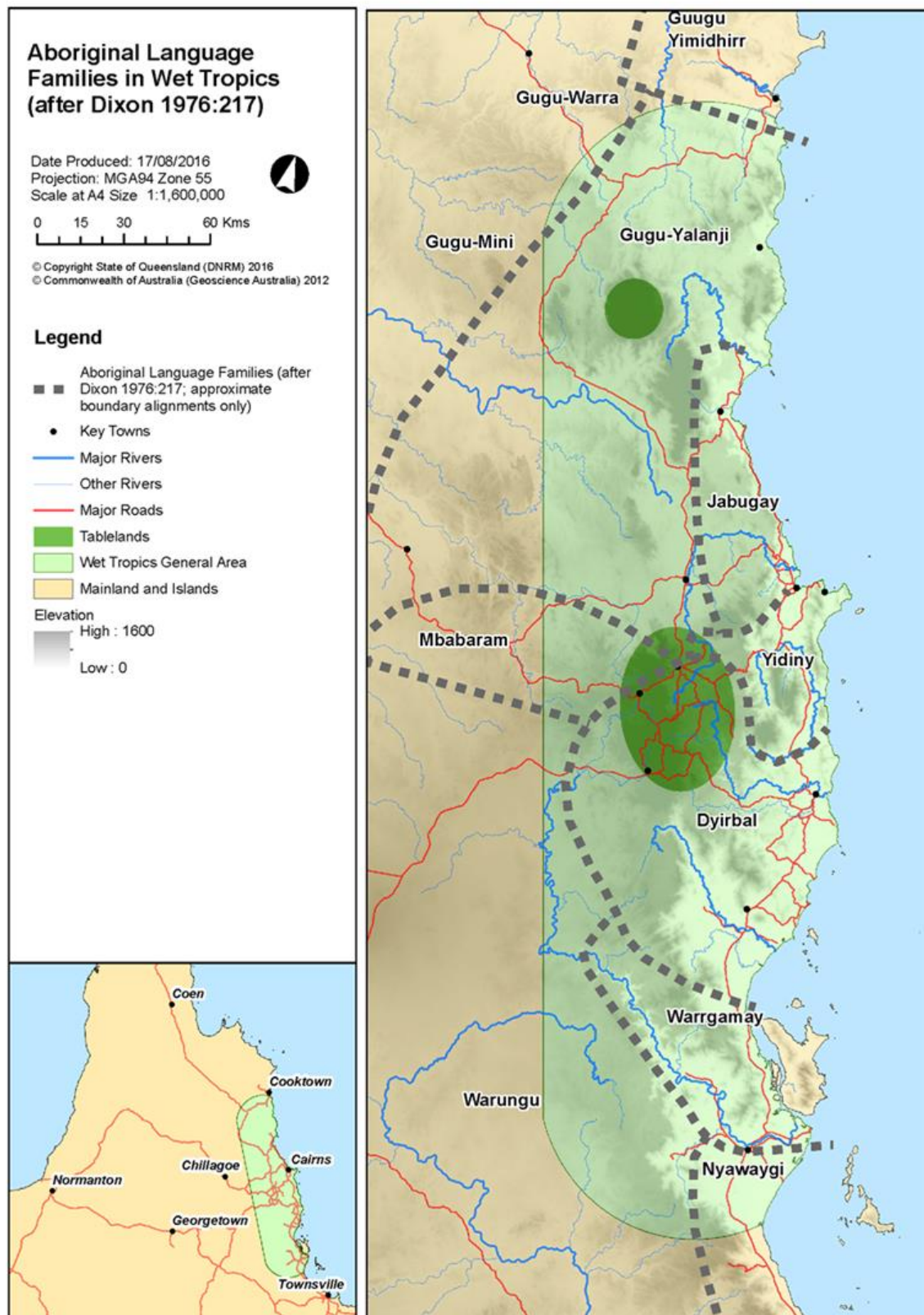


Figure 2.6 Map of Aboriginal languages based on Dixon (1976).

different languages who met at the Russell River. For Dixon, the linguistic difference across the Russell River was as different as English and Welsh (Dixon 1983). Dixon also began investigating languages to the west of the Dyirbal speakers, for example the Mbabaram who occupied mostly the dry fringes of the rainforest but also incorporated some of the rainforest into their estate. Dixon's language boundaries followed Tindale's 1938 map closely. The difference is that Dixon clustered Aboriginal groups into language families and dialects based on similarities in grammar and lexicon.

Dixon's linguistic interpretations, particularly the historical reconstructions, were not universally accepted. McConvell (1990) questioned Dixon's methodology in identifying waves of migration into Australia and the Wet Tropics while Sutton and Koch (2008) argued that similarities in words between neighbouring languages could be explained by their common linguistic roots rather than by diffusion (i.e. borrowing from a neighbouring language). Sutton and Koch (2008:491) claim Dixon's explanations suffered from 'diffusionist bias' and displayed a lack of understanding of social organization that included descent marriage, totemic affiliations, land holding responsibilities as well as language, dialect and clan based interests.

There are multiple interpretations for how ideas and technology spread. Diffusionists argue that changes (in technology or language) are the result of diffusion (movement of knowledge) between people. However, while changes in stone tool technology can be explained by someone learning the technology (diffusion), but it can also represent the abandonment and reoccupation of a single site by different people separated by time (McConvell and Bowern 2011:25). Dixon explains relationships in language through contact with neighbouring groups, while other linguists assert that language can be spread by fission of groups and geographical separation (McConvell and Bowern 2011:26). Piecing together history using language is open to interpretation and distortion and is essentially untestable.

Despite these criticisms, the impact of Dixon's work should not be underestimated. Linguistic studies often involve descriptions of single languages in isolation from other languages (Gaby 2008:222) and perhaps Dixon's greatest contribution comes from his extensive work on regional languages which has enabled him to identify clusters of language groups within the 20 or so self-identifying rainforest Aboriginal groups.

Dixon's work has influenced the way that rainforest Aboriginal people identify today. Speaking at a Rainforest Aboriginal Network meeting in 1993, Ngatjon Elder Ernie Raymont described the implications of Dixon's work in forming new alliances based on linguistic research. Raymont explained that the work, which identified seven Dyirbal-speaking dialects, encouraged a new way of thinking about rainforest tribal relationships (Raymont, cited in Pannell 2008: 64):

All that time we were thinking we were all strangers and we were all enemies and that's the attitude I was brought up with when I was a kid in the camp at Malanda from the old people...So it's only in the last 10 years as Prof Dixon went amongst our people and wrote books about it, that we have come together and start talking to one another and all those years we thought we all enemies talking different tribal dialects.

Two significant archaeological investigations took place in the 1980s, led by Helen Brayshaw and Nicky Horsfall. Brayshaw's archaeological investigation into the material culture of north Queensland was based around the Herbert and Burdekin drainage system rather than language areas. This was 10 years before the Wet Tropics WHA. Brayshaw's study area straddled both wet and dry environments between Townsville and Cardwell, with the Herbert being in the Wet Tropics and the Burdekin in the Dry Tropics. Brayshaw's results identified significant distinctions between northern (rainforest) and southern (dry) areas, particularly in the rock art. While the whole Herbert/Burdekin rock art assemblage was dominated by red paintings in the Simple Figurative Style (i.e. simplified and stylized silhouette of a human or animal, see Maynard 1976:201), stencils, snakes and shields were only found in the south while 'Kennedy characters' (anthropomorphs with bent legs angled outwards) were only found in the north (Brayshaw 1990:123-4). Brayshaw (1990:134) concluded that a lack of association between rock art motifs in the south and north reflected 'linguistic groupings, tribal movement and trade'. Horsfall built on Campbell's (1979, 1982, 1984; Campbell et al. 1996) preliminary work on rainforest Aboriginal sites to determine a chronology for occupation. Her excavations of Jiyyer Cave and the Mulgrave River sites and collation of site records from the Wet Tropics was the first regional archaeological investigation in the Wet Tropics. Horsfall's archaeological investigations provide the first evidence for Holocene occupation of the rainforest and identified the importance of a nut based diet for rainforest people.

In the northern Wet Tropics, anthropologist Chris Anderson (1983, 1984, 1987, 1989, 1996, 2016) conducted his doctoral research while spending many years with Kuku Yalanji at the Bloomfield River in the northern Wet Tropics, and produced detailed insights into material culture, political, social and economic activities. By the 1980s people who once identified as a network of eight or nine clan estates, had started using the broader term 'Yalanji' to identify themselves, based on their shared language (Anderson 1996). When Anderson (1984:84) worked with the Kuku Yalanji people at Bloomfield in the 1980s, he noted it was preferable to be born on and reside on one's clan estate, in fact, 81% of people born before 1885 (whose birthplace could be identified) were born on their own clan estate. Linguistically clans were more closely affiliated with each other than with the broader language group, so in terms of language, clan groups on

opposite sides of their language 'nation' could be more linguistically different than neighbouring clans of different nations (see also Dixon 1976). Anderson (1996:79) concluded that a notion of 'rainforest culture' is misleading, and observed 'in many major domains of material culture Kuku Yalanji shared more with non-rainforest, coastal and inland people to the north and west (at least as far north as Princess Charlotte Bay and to the west over to the middle Palmer River area) than with the "rainforest people" to the south.'

Some of the differences in the material culture of rainforest Aboriginal people are simply a reflection of strategies used to deal with the unusual environment. Two examples are Aboriginal walking tracks and unusual stone tools. People did not wander through the dense undergrowth but followed well defined tracks that linked story places, camp sites, resources and tribal groups. Charlie McCracken (1989:103) lived on a farm near Mossman from the 1920s and described the 500km of the walking tracks he had documented in his local region:

The tracks were used by Aborigines in the daily gathering of food. They led along streams to good fishing places, to campsites, to places where water and firewood could be obtained, and to different areas for the hunting of special animals and seafood. They also went to places where spear sticks grew in rich sheltered areas on the edges of rainforest, or where there were special fruit and nut trees that were gathered once a year. The tracks were also used as travelling routes for social gatherings or meetings of the tribes.

The stone toolkit of rainforest Aboriginal people included a suite of objects not found elsewhere in Australia as well as unusually large numbers of common artefacts such as ground edge axes and hand sized pebbles. Horsfall (1987:195) estimates that, based on the numbers of ground edge axes in museum collections, up to 40,000 large stone artefacts could have been taken from the Wet Tropics region. Large bodies of artefacts are stored by landholders and Aboriginal custodians in the Wet Tropics and continue to be found during development work today (Buhrich 2015c, 2008). Some important research on rainforest stone tools includes Horsfall's (1987) doctoral research where she examined over 1200 tools, mainly from private collections, Cosgrove's (1980) Masters research on the distribution and use of the T-shaped *ooyurka* and Field et al.'s (2009) pollen analysis which confirmed the use of the flat incised slate grindstones as 'graters' for toxic rainforest seeds.

2.10 Post native title 1992 – present

The *Native Title Act* of 1993 changed the legal framework for the involvement of Aboriginal people in land management and cultural heritage management. Native title has changed the way Aboriginal groups define themselves and are defined by others. It provides a framework for

community and individual identity and influences how individuals work and consult with outsiders. In native title law 'society' is recognised as 'a group (or body) of people who recognise themselves and are recognised by others to share commonalities developed and expressed through actual or potential social relationship. In this they identify themselves as having more in common with their fellows than they do with others who may be differentiated as strangers' (Palmer and Ganesharajah 2009:13). Native title establishes that, by law, a group of socially related people, are responsible for cultural matters. Native title led to the establishment of Prescribed Body Corporates, overseen by a Board of Directors, who control and direct matters relating to land and culture.

When native title was first introduced in 1992 a pan-rainforest claim was considered, but this was abandoned by rainforest Aboriginal people. Native title in the Wet Tropics now consists of multiple claims (and counter claims), based on language, tribal and clan boundaries (Pannell 2008:66). The definition of Aboriginal rainforest groups is constantly evolving as clans splinter from tribal groups in an effort to have an individual voice in negotiations with bureaucrats, landholders and land managers. As a default, native title groups in the Wet Tropics are identified through their relationship to language. This identity has remained constant since Tindale's 1938 map, and helps to distinguish rainforest Aboriginal people as a collection of nations, rather than a cultural bloc.

Aboriginal scholars have made significant contributions to the way cultural heritage is investigated and discussed, through the publication of guidelines, protocols, collaborations and Indigenous perspectives. Aboriginal perspectives from the Wet Tropics are provided in published accounts as community-based histories (Thompson 1989), memoirs (Skeene 2008) and academic research (Fourmile 1996; Talbot 2005; Talbot et al. 2003) while unpublished reports, such as those funded by the Wet Tropics Management Authority, (e.g. Wet Tropics Cultural and Natural Plan Project Team 2005) document rainforest peoples' aspirations for management of land and culture. The extensive anthropological, historic, linguistic, scientific and personal accounts provide a rich and varied ethnography of Aboriginal culture in the Wet Tropics.

There have been some significant collaborative approaches to language, history and environmental management in the post native title era. An historical perspective of rainforest Aboriginal heritage from the central Wet Tropics is provided by Timothy Bottoms (1990, 1992, 1999, 2013, 2015), whose Masters research was the result of collaborations with Malanbarra Yidinji and whose research subsequently extended to Djabugay and neighbouring groups. Bottom's detailed community histories include information on social systems that allows for comparison with Anderson's work with Kuku Yalanji and Dixon's work with Dyirbal. In

collaboration with Djabugay, Michael Quinn (1992, 2012) also produced important language material for community and public use. Environmental collaborations include the work of Hill and Baird (2003), Hill and Griggs (2000), Hill et al. (1999) and Pert et al. (2015) on fire management which identifies the role of anthropogenic fire use in shaping the rainforest. Anthropological collaborations, such as those produced by Pannell (2006, 2008) provide an Aboriginal framework for understanding the physical landscape.

2.11 The socio-cultural landscape

Aboriginal people in the Wet Tropics were embedded in a complex network of social identities that included language, clan and moiety affiliations. Six languages were spoken in the Wet Tropics – Yalanji, Djabugay-Yidinji, Dyirbal, Mbabaram, Wurungu and Warrgamay but they were not exclusive to the Wet Tropics. The Yalanji language, for example, is spoken over a large area from the wet tropical coasts of the Daintree and Bloomfield, over the Mount Windsor Tableland and into southeast Cape York Peninsula with Laura at its northern boundary. This is quite different to the core rainforest languages of Dyirbal, Yidin and Djabugay which are spoken on relatively smaller estates, each consisting of around four to six dialects.

Moeities overlay language and clan affiliations. Moieties provide kinship links within and beyond the clan group and were highly significant in day-to-day social activities. Moieties dictated marriage and other alliances and therefore linked individuals across language and clan boundaries. Coastal groups from Russell River to Bloomfield had two moieties while inland groups from Mount Carbine to Ingham and coastal groups from Russell River to Ingham had four sections. Moieties crossed language boundaries, but not clan estates (Dixon 1976, 1977).

Yalanji

‘Yalanji’ refers to a collection of dialects spoken in the northern escarpment area from Mossman north to Rossville and inland to Laura. The Yalanji estate is large, incorporating coastal, rainforest, sandstone escarpment and open woodland. Distinct dialects of the Yalanji language are signified by the prefix ‘Kuku’ (also written as ‘Gugu’, meaning ‘speak’). Within each dialect are clan estates, some of which use the suffix ‘warra’, although sometimes ‘kuku’ and ‘warra’ are interchangeable (Wood 2016a). The names of dialects are translated literally as ‘language that belongs to this dirt’, and are strongly tied to place. For example, Wood (2016a) identifies the following Yalanji clans:

Kuku (speak) yala (here) nji (having)

Gugu (speak) yimi (here) thirr (having)

Kuku (speak) Jalun (sea country) nji (having)

Landowning clans were named after the specific tracts of country with which they were associated. *Bubu* (which translates literally as ‘dirt’ in Yalanji) means home, or country, and specifically describes the tract of land, inherited from the patrilineal side, to which a person had specific rights and responsibilities. During his anthropological research living with Kuku Yalanji at Bloomfield, Anderson (1984) identified 25 distinct *bubus* in the Kuku (Eastern) Yalanji estate around the Annan and Bloomfield Rivers. Kuku Yalanji landowning clans were identified through the suffix ‘warra’ which in some cases was interchangeable with ‘kuku’. Jalun (people from the sea) could be Kuku Jalunji or Jalunjiwarra (Wood 2016a). The suffix ‘barra’, used south of the Barron River to identify landowning clans, appears to have the same function as ‘warra’ used by Kuku Yalanji (e.g. Dugulbarra = scrub-dweller, Malanbarra = person from the lower river-dweller, Waribarra = person from the escarpment country, see Bottoms 1999).

For the most part language families shared the same system of section/moieties, but this was not always the case. For example, on the east, dual Yalanji moieties were represented by two bees – *walarr* and *dabu*, while on the west, Yalanji used a four-section system (Roth 1910:104; McConnel 1931:24), the boundary between the different systems essentially corresponding to the Great Divide.

Djabugay-Yidinji

The Djabugay-Yidinji languages were spoken on the central escarpment area, from Port Douglas to Babinda, and the eastern side of the Atherton Tablelands. Roth (1910) identified Djabugay-Yidinji speakers by the suffix ‘idji’ meaning ‘speak’. Djabugandji is literally translated as Djabugay-speakers, the Bulwandji are Bulwai speakers, Yirrganydji are Yirrgay speakers, Gunggandji are Gunggay speakers and Yidinji are Yidin speakers. Dixon (2002) calls these groups the ‘Cairns sub group’. Some linguists argue that Djabugay (and its dialects Bulwai and Yirrgay) should be classified as a separate language to Yidin because they do not share Yidin’s special identifier, the preference to contain an even number of syllables (McConvell and Bown 2011). Others consider Djabugay and Yidin dialects as two branches of the Yidin language family, because they share 53% of common vocabulary (Patz 1991:247) and similar grammatical systems (Dixon 2009:226, 228). Ngadjon-ji, the southern neighbours of Yidinji, are Dyirbal speakers even though they also use the ‘idji’ suffix.

In the Cairns region, Djabugandji, Bulwandji, Yirrganydji, Yidinji, Ngadjon-ji and Gunggandji had two sections established through ‘*bulurru*’, the story waters. *Bulurru* were the laws and protocols which all people must follow. In the Cairns region, moieties were represented by two brothers, *Damarri* and *Guyula*, who were responsible for creating the landscape and establishing law. *Damarri* represents the *Gurabana* moiety (*bana* means water) and *Guyula* the *Guraminya* moiety,

the dry season (*minya* translates as meat). According to oral history, *Guyala* wanted to make things easy for the people, providing meat for hunting and a comfortable climate while *Damarri* thought people should work hard and so made the rainforest seeds that were toxic, requiring extensive treatment before they could be eaten, and brought the summer rains and storms (Bottoms 1999:6-7):

The brothers were always arguing about whether life should be difficult or easy, and, more often than not, Damarri got his way. Life was shaped by their arguments, so that, for instance, certain foods became toxic and required much more treatment. Fortunately Guyala had his way over naming of places. Damarri wanted to name only a few places on a journey; but Guyala thought it would be easier for people to follow a route if many places were named.

Through the stories, conflict between the brothers established a dual system of wet/dry seasons, plant/animal food and integrity/trickery and significantly, a system of potential marriage partners.

Dyirbal

Dyirbal speaking territory was a band of land from the coast, between the Russell and Tully Rivers, to the Evelyn Tablelands. The Dyirbal estate was composed primarily of rainforest, but also included wet and dry schlerophyll, savannah, tablelands, riverine, mangrove estuaries and offshore islands. Dixon identified five dialects of the Dyirbal language: Jirrbal, Mamu, Ngadjon, Girramay and Gulnay. Dyirbal speakers likely moved between environmental zones according to climate and resource availability. Significant archaeological research has been conducted on the Dyirbal estate, as an Australian Research Council funded project (Cosgrove 1996, 1999; Cosgrove et al. 2007; Field et al. 2015; Ferrier 2015).

In the west and south of the Wet Tropics there is no information on moieties but a four-section system was used by Njawaygi, Biyay, Wargamay, Wurungu, Mbabaram, Djirbal, Giramay, Mamu, Djiru, Gulnay, Djangana, Wagaman and Muluridji (Dixon 1976, 1977). Ngadjon was the only Dyirbal language that used a two-section system with moieties related to those from further north, while Dyirbal speakers to the south used a four-section system. Ngadjon also had significantly more in common linguistically with the Yidin-Djabugay language to the north.

Mbabaram

Mbabaram (also spelt Mbabarrum, Barbarram, Babaram, BaBarum) occupied the western fringes of the Wet Tropics, with their heartland in the Herberton Range west of Atherton. The Mbabaram estate is dominated by open woodland and dry schlerophyll, with only a small portion of

rainforest vegetation. Dixon was struck by the differences between the Mbabaram language and others that he studied. Mbabaram had a special linguistic identifier - the dropping of the initial syllable. Among rainforest languages this is unique to Mbabaram, and makes it intelligible to neighbouring languages; initial dropping is a shared trait with Wamin languages further west, Agwamin spoken by Ewamian people at Georgetown and Wakamin spoken at Chillagoe (Dixon 1991:349-50, 2009). With only one Mbabaram informant, Dixon did not have enough information to theorise on a possible proto-type for the initial syllable dropping language but suggested it appears to have more in common with the languages spoken in the western savannah than the eastern rainforests.

Gugu Badhun

Gugu Badhun are located in the southwest of the Wet Tropics study area. Their estate is centered on the Burdekin catchment, mostly dry tropical savannah and sclerophyll. Gugu Badhun are closely affiliated with Warungu and Gudgal, from Mount Garnet to Charters Towers, and speak Wurungu, which is the most northerly of the broad Maric language family which extends to southeast Queensland, primarily west of the Great Divide (Dixon 1991; Sutton 1973:14). To the west, Gugu Badhun's neighbours are the Wamin speakers, known as the Ewamian (also called Agwamin) and to the east are the Djyirbaljic speaking Nywagi (Sutton 1973).

2.12 Heritage Listing

Timbers had been harvested from the Wet Tropics region since Dalrymple's (1874) descriptions of the highly valuable red cedar stands. Timber cutters quickly followed Dalrymple's (1874) glowing reports of the 'Ceylon of the south' and by 1879 there were logging operations at Cardwell, Tully and Daintree. Within another three years twelve pairs of sawpits were in operation (Birtles 1997). In 1880 Lumholtz (1889) was dismayed with the impact of tree felling on the forests:

The cultivated forests were being extended with great industry, neither capital nor labour being spared, and it made me almost sad to see the field of the naturalist daily disappearing. The large flocks of pigeons had difficulty in finding the high quandong trees, in which they are wont to light. The magnificent "weaver birds" flew about homeless in large flocks, for the great trees in which the colony had their numerous nests were felled.

One hundred years after Lumholtz's observations, the campaign for protection of the Wet Tropics rainforests began with the establishment of Cairns and Far North Environment Centre (CAFNEC) in 1981 (Bottoms 2015:557). CAFNEC campaigned against the destruction of forest reserves and demonstrated the scientific values of the rainforest environment. Battle lines were drawn

between conservationists and the conservative Bjelke-Peterson government, most notably at Cape Tribulation and Mount Windsor where protesters bound themselves to trees and bulldozers pushed roads through rainforest in the secrecy of night. Initially, conservationists considered an easy alliance would be formed between the conservationists and Aboriginal people for the preservation of the environment. However, Kuku Yalanji people from Wujal Wujal supported the proposal to build a road through the rainforest connecting their community with Cape Tribulation, even if it meant the destruction of food sources and cultural sites (Anderson 1989). This situation highlights both the disparity between European and Aboriginal political spheres, and the mistaken assumption by many non-Indigenous people that Aboriginal interests always align with conservation of the natural environment. As Anderson (1989) explains, the reasons that certain Kuku Yalanji 'bosses' supported the road construction were both political and practical; politically the Kuku Yalanji powerbrokers at Wujal Wujal, the *majamaja*, were showing their support for the European Mission 'bosses' with whom they were allied while on a practical level the road provided access to neighbouring communities. The lack of reciprocal relationships with the local 'hippies' was another factor in Kuku Yalanji's lack of support for conservation of the forest (Anderson 1989).

The gazettal of the Wet Tropics World Heritage Area was for its aesthetic beauty, highly endemic flora and fauna and as an example of botanical evolutionary processes (Stork et al. 2008). Aboriginal cultural heritage values were not included in the world heritage nomination. However, the Wet Tropics Management Authority (WTMA) has provided some support for rainforest Aboriginal people. The WTMA funded two influential documents produced by rainforest Aboriginal people. The first, 'Which way our cultural survival' (Review Steering Committee 1988) contained a review of Aboriginal involvement in the Wet Tropics World Heritage Area. The document contained 163 recommendations that would ensure the voices of rainforest Aboriginal people would be heard. This was followed by 'Caring for Country and Culture: The Wet Tropics Aboriginal Cultural and Natural Resource Management Plan' (Wet Tropics Aboriginal Cultural and Natural Plan Project Team 2005) which included 34 strategies for recognising the custodial rights and interests of Aboriginal people in the Wet Tropics. Consistent themes raised by rainforest Aboriginal people are the need to identify, protect and manage cultural heritage places, effective and equal partnerships with researchers, control of Intellectual Property, increased involvement of Aboriginal people in natural and cultural heritage management and the recognition of the rights of individual groups in land management.

Rainforest Aboriginal people have been scathing of what they perceive to be a low level of involvement in management of the world heritage area. In a report to the Wet Tropics Management Authority the Aboriginal led Review Steering Committee (1998:26) stated:

Indigenous cultural values, particularly those outside of protected areas, do not have a level of statutory protection deemed acceptable to their traditional custodians. However, the fact that the WHA was originally only listed for its natural values does not automatically relieve WTMA from an obligation to coordinate and facilitate the protection of cultural values across all tenures. It has been argued previously that there are considerable obligations on WTMA (although secondary to the protection of natural heritage values) to protect Aboriginal cultural values. The fact that the region has not been listed for its cultural values has ultimately constrained the level of emphasis afforded to cultural heritage protection.

To counter this imbalance rainforest Aboriginal people have been pursuing re-nomination of the WTWHA for its cultural values. Recognition of the Indigenous cultural values of the Wet Tropics of Queensland was a major step towards this goal. The values are based on the following, published in the Commonwealth of Australia Gazette No. 169, on 12 November 2012 (Commonwealth Government 2012):

- Permanent, year-round, occupation of the rainforest.
- A high degree of technical achievement in processing toxic rainforest seeds using a unique material culture (stone tools and bicornual baskets).
- Managing the landscape with fire.
- Traditions established by Creation Beings, specifically those which detail techniques to treat toxic seeds and are inscribed in the landscape at specific named places.

Inclusion of the Wet Tropics of Queensland on the National Heritage List recognizes rainforest Aboriginal culture as different and distinct from other parts of Australia. The inscribed values are based on academic research, including Aboriginal use of fire to maintain open 'pockets' and encourage growth of edible plants species (Hill and Baird 2003) and the production of a suite of unique stone tools and unusual baskets (Cosgrove 1984; Horsfall 1984, 1987). The Wet Tropics Aboriginal landscape is recognized as the only place where Aboriginal people permanently occupied rainforest environments, which was linked to the ability to process a wide range of toxic rainforest seeds (Ferrier and Cosgrove 2008; Field et al. 2009). Although other Aboriginal groups ate toxic plants that required extensive treatment, such as cycads, rainforest Aboriginal people ate a diverse range of toxic plant species, around 50 different seeds, and these formed a high component of their overall diet. The oral history relating to the use of toxic plants and treatment of toxic seeds is also included in the National Heritage List criteria. While all Aboriginal Australians enjoyed a rich oral history, the listing notes the role of oral history in knowledge of toxic seed processing.

Conflicts between the natural and cultural heritage management are still being negotiated, and this became clear in some of my work with Aboriginal people and rainforest cultural sites. Further, the official description of the National Heritage List values offers outdated and sometimes incorrect information which suggests the listing of Indigenous values may not have been well thought out. For example, the listing entry on the Department of Environment website claims Aboriginal occupation in the area dates back to at least 40,000 years by a 'Barrinean' group of Aboriginal people, making them the oldest rainforest culture in the world (http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=105080). References for these assertions are not provided, but they are not supported by the recent academic research described above.

At the time this project commenced, the implications of National Heritage Listing of the Indigenous values of the Wet Tropics was not well understood. When my studies commenced in February 2013, it had only been three months since the gazettal of Indigenous heritage values and the Wet Tropics Management Authority Board had no Indigenous representation. By the end of the project, in July 2017, there were two Aboriginal people on the Wet Tropics Management Authority Board.

The Wet Tropics as a bio-cultural landscape

This chapter has identified the Wet Tropics region is a significant socio-cultural landscape which comprises a complex network of linguistic and social groups. An outcome of the Wet Tropics World Heritage listing is that 'rainforest Aboriginal people' have united with the aim of increasing outcomes across the WHA, but in another sense, individual groups have diverse identities based on language, dialects and clan affiliations. This is partly a reflection of the way information has been collected and collated over time. Early European ethnographers focused on collecting, documenting and developing typologies of material culture that matched the distinct environmental zone, while later linguists, anthropologists and historians described social relationships and connection to country from an Aboriginal perspective (e.g. Anderson 1984; Bottoms 1990, 1992; Klaatsch 1923 and Mjöberg 1918 [2015]).

The complex linguistic and social dynamics of this area makes the Wet Tropics an excellent place to explore how visual culture relates to the social landscape. Rock art research has demonstrated the use of visual culture to reflect different social identities in the neighbouring provinces of southeast Cape York Peninsula and the Mitchell-Palmer (Cole and David 1992; David and Lourandos 1998; Winn 2016). In the next chapter, I focus on the use of visual expression in the Late Holocene rainforest, with a focus on shield designs, rock art and dendroglyphs.

3 Late Holocene visual and material culture

The Late Holocene was a dynamic period in north Queensland. New technologies were exploited, new stone tool types, increasing diversity of resource use and previously marginal environments were settled permanently while rock art style provinces emerged in south-east Cape York Peninsula and the Einasleigh Uplands replacing an earlier homogenous style (Cole 2016; David and Chant 1995; Williams et al. 2015). Across northern Australia, Late Holocene rock art styles emerged, reflecting the development of cultural belief systems and social structures (Smith 1992; Taçon 1994). As demonstrated in the previous chapter, it was during this dynamic period in Australia's history that the rainforests in the Wet Tropics of northeast Queensland were occupied permanently.

Items of unique material culture captured the imagination of numerous ethnographers and collectors and helped cement the idea of a distinct 'rainforest Aboriginal culture' (Åabarge et al. 2014; Buhrich et al. 2016; Erckenbrecht et al. 2010; Henry 2016). However, there were significant differences in the production of Aboriginal material culture in the Late Holocene Wet Tropics. Research into Aboriginal rainforest shield designs identifies an association with language estates (Abernethy 1984; Hale 1989) demonstrating the use of visual expression to reflect social identities. As demonstrated in this chapter, the Wet Tropics rock art and dendroglyphs were also created during this time of social complexity.

3.1 Identity and symbolism

For over 40,000 years visual expression, such as paintings, carvings, sculptures and personal adornments, have been hallmarks of technical, economic and creative achievements. For archaeologists, visual expression provides information on complexities and relationships in relation to social organization, trade and exchange. Symbols were used to convey information between individuals and within groups, and identifying patterns in symbolism may help understand the complexities of social relationships. It has been argued that the creative achievement of rock art at Lascaux and other European sites illustrates a symbolic revolution in Paleolithic Europe that coincided with language development (Habgood and Franklin 2008). In Australia, evidence of symbolic behavior is present in all levels of the archaeological record, from recent times to the most distant past. Ochre, painted fragments, beads and burials provide evidence of symbolic behavior from the earliest Aboriginal occupation of the continent at least 65,000 years ago (Balme et al. 2009; Clarkson et al 2017; David et al. 2013; O'Connor et al. 2013). But it is the development of regional rock art styles from the Late Holocene, which coincided with

environmental changes such as rising sea levels, technical advances in stone tool technology and increasing populations, which identify this as a dynamic era in Australia prehistory, possibly related to the beginnings of Aboriginal 'Dreaming' cosmology (David 2002; Mulvaney 2013; Ross 2012; Taçon et al. 1996). This explosion of creativity in visual culture in Late Holocene Aboriginal Australia provides opportunities to investigate the relationship between identity and symbolism during this dynamic period.

There are many examples that illustrate the social function of rock art. The emphasis on eland by San Bushmen in South African rock art, for example, suggests that individuals were not simply painting the animals they observed, but creating symbols that had special relevance in the San cosmology (Lewis-Williams et al. 1982). Similarly, in Norway, the depiction of elk, boats and human figures carved together can be understood in the context of Saami shamanistic belief systems (Lahelma 2007) while the 'dumbell' and 'concentric circles' in Ugandan rock art can be interpreted through an understanding of the relationship between gender, fertility and landscape in Pygmy ethnography (Namono 2012). Anchoring chronologies is one of the key challenges in rock art research, and a pre-requisite for comparing symbolism to recent ethnographies. This is a key reason for investigating the question of style and identity in the Wet Tropics.

Like rock art, dendroglyphs are one of the few forms of non-portable visual expression and some argue for their inclusion in the 'lexicon' of rock art (Barber 2012; Coy 2009; Mathews 1896). Indigenous dendroglyphs are a rare form of visual expression that reflects affiliation with the land and special cultural association with the landscape and its resources (e.g. Blackstock 2001; Richards 2007). Indigenous dendroglyphs are rare worldwide, with a few detailed records from New South Wales, the northwest and northeast United States, the Chatham Islands and northeast Queensland (Barber 2012; Black 1941; Blackstock 2001; Coy 2009; Etheridge 1918; Jefferson 1955). However, scant records of dendroglyphs from Turkey, Papua New Guinea, Torres Strait, the Kimberley and Queensland's Gulf of Carpentaria suggest they could be more widespread (Bird Rose 1992; D'Albertis 1880; David and Ash 2008; Morwood and Fillery 1976; Turner et al. 2009).

Most known Indigenous dendroglyphs are centred on the Pacific Rim, but there is no evidence to link the production of dendroglyphs in any of the regions where they are found. Carved trees in New South Wales (NSW) have significantly different production techniques to those of northeast Queensland. In NSW, the outer bark is removed and the smooth, flat inner bark is carved with deep incisions of geometric designs as well as anthropomorphs and zoomorphs in the form of snakes, lizards and humans (Black 1941). New South Wales dendroglyphs tend to be clustered rather than single trees, marking special places such as burials, bora grounds, and ceremonial

pathways. In contrast, Wet Tropics dendroglyphs are carved into the outer bark, almost always on single trees.

In Papua New Guinea, D'Albertis (1880:66-67) observed

... a hieroglyph on a tree near the shore, which perhaps we shall never succeed in interpreting, but which doubtless has a meaning for these people. The tree on which I remarked this sign being very white and the sign itself being very black, it was apparent to everyone passing along the river. I had it copied as exactly as possible.

Later, D'Albertis (1880:69) came across a clearing with carved and painted symbols on several surrounding trees, including anthropomorphs, zoomorphs and human faces, one of which D'Albertis's group stripped and took with them. It is unclear where D'Albertis's sketch or the actual carving he removed are today.

The use of rock art and carved trees as a mark of ownership is documented in the Yukon. During the early fur trade in the Yukon area, between 1787 and 1830, Tsimshian Chief Legaix controlled three of the four major coastal to inland fur trade routes in the Yukon Territory. Chief Legaix commissioned his artists to create both tree carvings and rock paintings to assert his control over these routes. Oral history relates how Chief Legaix invited two neighbouring chiefs to watch the paintings being applied to the rock by artists hung over a cliff in wicker baskets. This process helped Chief Legaix assert his role over these significant trade routes. Further north, at Fort Selkirk, Chief Kohklux similarly marked his trails with carvings on trees. In the United States of America, stylistic zones of rock art have been associated with broad tribal identities, such as the North East Woodlands tribes (Coy 2009) and the Texan Trans-Pecos area (Hampson 2015). These examples show the use of both rock art paintings and tree carvings as a form of identity markers, to communicate ownership to those using the trails. As Ron Chambers, deputy chief councilor of the Champagne and Aishihik First Nations, describes (cited in Blackstock 2001:136)

These things (dendroglyphs) do have a common meaning, same as these rock carvings you know. You go right down the coast and they have similar themes. The style changes a bit from part of the country to part of the country.

In New South Wales, dendroglyphs continue to be an important representation of contemporary Aboriginal identity; today dendroglyphs are created by contemporary Aboriginal societies as a link between traditional and contemporary practices. The Gwalan Aboriginal custodians, an urban Aboriginal community, create carvings of turtles on trees to mark the funeral ritual, and to express their Aboriginal identity (Everett 2010). Elsewhere in New South Wales Aboriginal

people at Albury carved a goanna into a river red gum as part of the first Ngan Girra Festival, again as a representation of the ongoing contemporary significance of carved trees to Aboriginal custodians (Spennermann 2015). In Australia and beyond, dendroglyphs clearly continue to be an important component of the cultural and cosmological landscape, acting as bridges between the physical and spiritual world, the past and the present (Barber 2012; Bird Rose 1992; Blackstock 2001; Everett 2010; Taçon 2013).

3.2 Material culture in the Wet Tropics

Variation in material culture can be seen across the Wet Tropics. Some of these variations, like the shield designs, represented group identities while others may have reflected the ways in which resources were utilised in various parts of the region. This section describes three forms of material culture, baskets, stone tools and shield designs, to examine the inter-regional differences between the unique Wet Tropics rainforest material culture.

Baskets

The plants of the rainforest provided significant resources for basket making. Mjöberg (1918[2015]) recognised cane baskets as one of the four items of material culture that distinguished rainforest people (McGregor 2016). Species such as the lawyer cane is a tough, flexible and water-resistant resource that was used to make a wide range of baskets, each with a specific purpose (Ewington 2003:161). One of these, the bicornual basket, or *jawun*, could be used for leaching toxic rainforest seeds or as a fish trap because of its crescent shape and ability to withstand extended periods of submersion in water (Ewington 2003:161). Certain baskets were used to hold mummified remains as part of the specialised mortuary practices of rainforest Aboriginal people (Ewington 2003:161). Some baskets were decorated in ochre with patterns unique to the rainforest, although it is not known whether the painted patterns on baskets reflect social identity (Ewington 2003:161).

Within the Wet Tropics there were inter-regional differences in rainforest baskets. In 1941, Tindale and Birdsell noted the 'half hitched coil baskets' were made only by Mbabaram, Tjapukai and Idinji (Erckenbrecht et al. 2010:358), while Roth observed that bicornual baskets and crescent shaped baskets made from bark were made at Herbert River, Cardwell, Cairns and Atherton (Kahn 1993:10, 38). In the Yalanji estate, Anderson (1996:79) observed that 'Bloomfield people did not use cane to make baskets, although the closely related groups just to the south near Daintree did'. The unique material culture that, in part, defined rainforest Aboriginal people, was not uniform but had significant inter-regional differences, even when the same resources were available. This was also the case with stone tools.

Stone tools

Stone tools common from Cardwell to Bloomfield, but not found outside the rainforest environment include the nut cracking rocks, large ground edge axes and slate grindstones. The unusual stone *ooyurkas* (T-shaped stone tools with long edges that are flattened from abrasion) and incised grindstones (flat stones with parallel lines) are found only in the Dyirbal speaking part of the central rainforest and its fringes (Babinda to Tully) (Cosgrove 1996). No oral history or ethnological records on the purpose of these mysterious *ooyurkas* exists, but their uniform shape and indication of use wear indicate they were functional objects with the flat base of the tool used in an abrasive process (Figure 3.1a). There have been no formal studies on the function or distribution of the *ooyurka* for at least three decades (Cosgrove 1984; Horsfall 1987) and a closer analysis of this and the other unique rainforest tools could answer some important questions about trade and exchange within rainforest Aboriginal societies. For example, the incised grindstone (Figure 3.1b), presumably used as a grater in the processing of toxic seeds (Field et al. 2009), is only found on the Dyirbal speaking estate and its fringes, although people were eating the same types of seeds across the Wet Tropics. Significant quantities of these stone tools have been picked up by farmers clearing their land for sugar plantations, concentrated in areas probably used as campgrounds or boras (Cosgrove 1996).

Nut cracking rocks, identified by a series of indents used to hold seeds while they are cracked open with a round pebble, can be found on portable rocks (Fig 3.1c) and on large non-portable rocks particularly in creek beds near running water. Ground edge axes are a common rainforest Aboriginal stone artefact, some of which were hafted. The large ground edge axes are of particular interest. These can be half a metre in length, extremely thin and unlikely to have any practical use (Fig 3.1d). Starch analysis from minute traces of floral remains from the incised grindstone indicates this rainforest tool was used for grinding toxic nut species, either *Eleocarpus palmerstonii* or *Beilshmedia bancroftii* (Cosgrove et al. 2007). *Beilshmedia bancroftii* dominates the discarded nutshell from excavated deposits at Koombooloomba and was a primary wet season staple in Eastern Kuku Yalanji territory (Cosgrove et al. 2007; Hill and Baird 2003). Incised grindstones and *ooyurkas* are not part of the northern Wet Tropics stone tool kit.



Figure 3.1 Ooyurka (Rod Catton collection), (b) incised grindstone (James Cook Museum collection), (c) nut cracking rock (Ernie Grant collection) and (d) large ground edge axe head (James Cook Museum collection).

Hand sized spherical pebbles were common and numerous examples of these can be found in collections held by rainforest Aboriginal people. In 1912, Mjöberg noted all rainforest Aboriginal women had one of these round pebbles in their possession, probably reflecting the significant use of ground seed in the rainforest diet. My survey of rainforest Aboriginal stone tool collections identified examples of objects not previously described in the rainforest. These include a ground edge slate disk and a sandstone oval pebble with an inch-thick hole in one end, possibly a fire starter (Buhrich 2015c). The ground edge slate disk appears to be similar to the *gabagaba* stone axe head of Torres Straits (McNiven 1998) and only one complete example has been confirmed although others may be held in private collections. To date there have been few studies that investigate the diversity of rainforest stone tools and their geographical distribution within and beyond the Wet Tropics.

Shield designs

Ethnographers quickly identified relationships between shield designs and social identity. Lumholtz described rainforest shields as the *bama*² 'coats of arms' (Lumholtz 1889:121). Patterns, shapes and the size of shields were specific to clan groups, and communicated social identity. McConnel (1935) documented some of these clan specific designs, which were still painted by the male residents at Yarrabah Mission in the 1930s. McConnel (1935:56) described the role of the shield as an important mark of manhood,

Ability to use a shield was one of the prerequisites of candidature for initiation into manhood. A boy on receiving his first 'mark' was given a shield 'to see if he could handle it' satisfactorily. If so, the 'big day' of his final initiation was prepared for, and on this day he received his final 'marks' and a shield of his own. After this he was a 'walgun,' ie a man. It was then that he 'thinks what he is going to put on his shield'.

Rainforest shields were not everyday items. They were used specifically in one-on-one battles during the *pruns* to defend against large wooden swords. Individuals would use these events to settle disputes. Unlike the shields, the swords were not decorated.

A classification system for interpreting the attributes of different shield design elements was developed by Abernethy (1984) and expanded by Hale (1989). Abernethy (1984) identified specific elements of shield designs corresponded to geographic areas which Hale (1989) correlated to language group. Three geographic zones were identified – northern (Yidinji speakers), central (Dyirbal speakers) and southern (Warrgamay speakers). Shield shapes were found to be different, with oval shapes predominately associated with southern shields (Abernethy 1984). Hale's (1989) analysis of symmetry in shield designs found a high ratio of reflective symmetry (mirror image if the shield could be folded mid line vertically) in northern (Yidinji) and central (Mamu) shield designs while asymmetrical patterns dominated the southern (Warrgamay) shield designs. Figures 3.2 and 3.3 illustrate the differences between the symmetrical (Yidinji and Dyirbal speakers) shields and the non-symmetrical (Wargamay) shields. It is interesting that similar shield designs are found within the area with the strongest linguistic diversity, identified by Dixon at the Russell River (separating Yidin and Dyirbal speakers). Relationships between shield design and language groups illustrate the complex nature of rainforest social groups.

² *Bama* means rainforest Aboriginal person

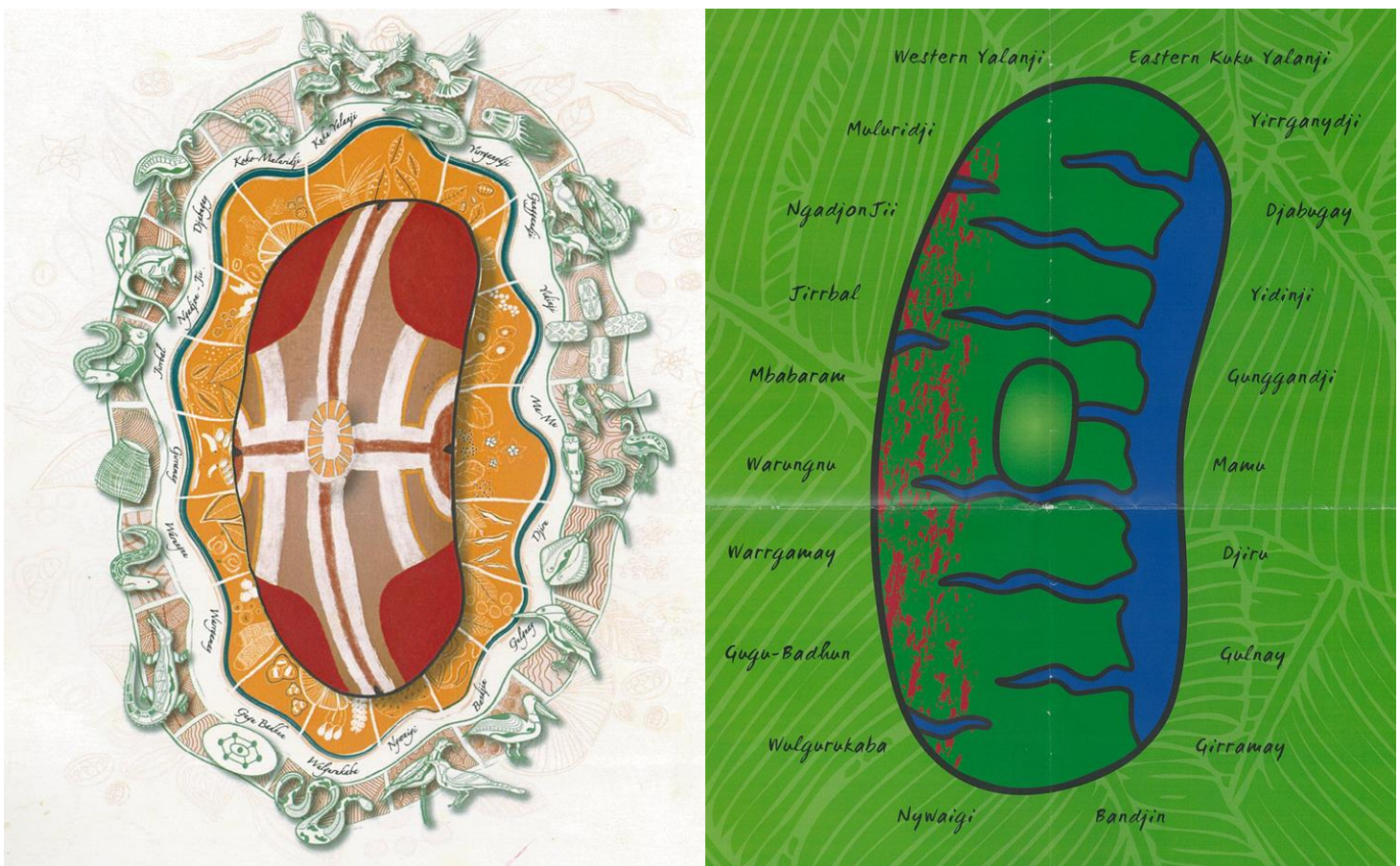


Figure 3.2 Symmetrical Yidinji shields (copyright pending).



Figure 3.3 Asymmetrical Girramay shields (image courtesy of Cairns Historical Society).

Rainforest shields continue to be important symbols of rainforest Aboriginal identity. In 2005, 18 Rainforest Aboriginal tribal groups, represented by Aboriginal Rainforest Council, became signatory to the Wet Tropics of Queensland World Heritage Area Regional Agreement with national and state government departments. This agreement, which outlined cooperative management of the World Heritage listed rainforest environment between government and Traditional Owners the rainforest shield design was used in artwork to 'symbolise Rainforest Aboriginal people coming together as one voice...to work with government agencies' (Wet Tropics Management Agency 2005: back page. Figure 3.4a). In 2013, the Rainforest Aboriginal Peoples Alliance (which emerged after the decline of the Aboriginal Rainforest Council) again used the rainforest shield design to represent Rainforest Aboriginal groups, which had grown from 18 individual clan groups to 20 (Figure 3.4b).



3.3 Rock art in the Wet Tropics

Rainforest rock art was first officially noted in 1872 when Governor Normanby inspected the road being constructed from the port of Cardwell to the Etheridge goldfields. He had a specific task in

mind – to inspect a cave of Aboriginal paintings which had been discovered by Dalrymple on the road, about 14 miles from Cardwell. The road, like many other early European access tracks in the Wet Tropics, followed an Aboriginal walking track, and when Dalrymple first followed in it 1865, he noted 'bora grounds and (newly abandoned) shields painted with zigzag patterns in blue, red, black and yellow' along the track. Normanby arranged for the site to be photographed, these are probably the images produced by Richard Daintree (Figure 3.5, Bolton 1965). In 1872, Normanby (cited in Ray 2006: 3) described the paintings in an account of the expedition:

It is situated on a hill side overhanging a creek of running water about a quarter of a mile from the line taken by the new road. The circumstance however which renders this place so remarkable is that the whole of the overhanging portion of the soil is covered with native drawings representing men, women, birds, and animals. The whole of the cave is covered with a dark brown substance, which has much the appearance of paint, but which the Native troopers say is composed of human blood and as there can be no doubt that the Natives are cannibals, it is quite possible that this may be the case. The drawings are made upon this substance with a kind of clay of different colours, white, black, and blue. They are extremely rude but considerable pains must have been bestowed upon them, and it is quite evident that they have been renewed at different times as traces of old drawings can be seen under these of more recent date. What makes this place more remarkable is that that I have not heard of anything of the kind being discovered in any other part of this Colony.

Thirty years later Inspector Johnstone describes finding a large painted cave in the Herbert Valley near a large bora ground at the head of Meunga Creek. He writes 'the paintings represent men and women, birds, animals, and reptiles, and where men and women are painted their hair is represented by the genuine thing, which is fastened in its place by gum' (Johnstone 1904). This is the only description of hair or gum being used in rainforest rock art, although beeswax is used elsewhere in Australia. Johnstone describes a second art site he calls 'Painted Rocks' at the head of Attie Creek on Mt Graeme. This site provided a view of the Native Police Barracks, and Johnstone observed that Aboriginal people could keep watch on the police from here, and pass messages via walking tracks which were much more direct than the dray track which went through Dalrymple Gap.



Figure 3.5 Photograph of dingoes at Kennedy A by Richard Daintree, probably taken at the request of Governor Normanby (from Bolton 1965: following page 43).

In the 1880s, as naturalists began exploring more remote parts of the high mountainous regions looking for rare and unusual plants and animals more rock art sites were found. Lumholtz was searching high altitudinal forests for a specimen of the green possum in 1889 when he camped in a low granite cave by a river. He noticed paintings on the ceiling, a man, woman and baby in charcoal and red paint, but this description does not match any of the known sites in the region and it is possible it is no longer visible, or is yet to be relocated. Lumholtz (1889:155) writes:

In the strong light from the fire my eyes discovered on the roof of the cave some figures made by the blacks who frequented these regions: these figures represented a man and a woman with a baby. The drawing consisted merely of a few lines scratched with charcoal and red paint, and the figures had large spreading fingers and toes. They were not without symmetry; the left side was precisely like the right, but apart from this the figures were very irregular.

In 1897, the Victorian naturalist named Le Seouf, along with local Frank Hislop and several Aboriginal guides, became the first Europeans to ascend Mount Peter Botte via Cape Tribulation. In his description of the ascent, Le Seouf makes no mention of Aboriginal rock paintings, although he does note the Aboriginal names for the twin peaks and describes the reluctance of his Aboriginal guides to approach the peak (Le Seouf 1897). Le Seouf carried his half-plate camera, which made climbing difficult, but is presumably the source of the photograph held by Cairns Historical Society that shows two Aboriginal people resting in a rock shelter with an image of a boat clearly painted on the shelter wall (Figure 3.6).

It is likely that local people knew of more Aboriginal art sites. Frank Woolston interviewed Christian Wildsoet, an old non-Indigenous resident of Tully, in 1965 (Woolston and Colliver 1975). At the time, Wildsoet was 82 years old, and Woolston was lucky he left his bed to answer the door for him, a stranger, at 7pm and agreed to be interviewed. Wildsoet was born in Port Douglas in 1883 and had lived most of his life in the Tully-Cardwell area. He spent his youth helping his father operate a boat out of Cardwell. Wildsoet described being taken to three caves on Dunk Island by the local Aboriginal residents, 70 years before the interview, which would have been in the 1890s (see below).



Figure 3.6 Photograph from Le Souef's 1896 climb of Mt Peter Botte showing painting of a boat (courtesy Cairns Historical Society).

Today at least forty-five rock art sites from the rainforest and its margins exists on the public record, from a combination of academic research, commercial consultancies and heritage management. Published references include rock art research (Cole and David 1992; Edwards 2007; Layton 1992; Trezise and Wright 1966), archaeological research (Brayshaw 1990; Cosgrove and Rayment 2002), historical documents (Banfield 1908; Johnstone 1904; Palmerston 1887; Seaton 1951, 1952a, 1952b, 1952c; Tindale 1952), linguistic studies (Dixon 1983) and community memoirs (Thompson 1989). An additional 20 sites are recorded in unpublished sources, which include rock art research (Clegg 1978; Cosgrove 1999; David 1994), preservation

assessments (Gunn and Thorn 1994; Ward et al. 1999) and archaeological research and consultancy projects (Cole in association with Girringun Aboriginal Corporation 2010; Horsfall 1987). Amateur archeologists, such as Ron Edwards and Doug Seaton, have contributed a significant amount of records of Wet Tropics rock art. Unpublished site data is also held by the state and by relevant Aboriginal communities.

The quality of rock art records from the Wet Tropics varies, partly because information was collected for very different reasons. As Table 3.1 illustrates, published information is concentrated on only four of the site complexes, Bare Hill, Kennedy A and B, Brown Bay and Dunk Island, although no records have been generated from Dunk Island for over 35 years. As part of her background research, Horsfall (1987) collated information on all the sites recorded in the state heritage database from the rainforest and its margins. A number of these were rockshelters with paintings, most on the western margins of the rainforest with many 'faint and indecipherable' and fading quickly (Horsfall 1987:70-71). In 2007 Edwards self-published his field notes, collected over 40 years on rock art in northern Queensland which provides basic records of 11 of the Wet Tropics sites or site complexes.

Four of the 32 rock art sites Brayshaw recorded are in the Wet Tropics, between the Herbert and Murray Rivers. Anthropomorphic figures that Brayshaw (1990) called 'Kennedy characters', with head, torso, upturned legs and arms, were found in each of the shelters north of the Herbert River, but not in any of the shelters south of the Herbert River. Motifs resembling rainforest shields were recorded only in the Wurungu language area and very few stencils were found north of the Burdekin River, although they were dominant south of the Burdekin River. Brayshaw (1990:134) concluded that the 'rock art appears to correlate with a wider cultural association already noted in relation to linguistic groupings, tribal movement and trade, as well as elements of material culture' and considered this reflected a possible 'rainforest culture' north of the Herbert River. Mount Claro II was one of five sites chosen for detailed recording. Brayshaw identified three stenciled weapons at this site as the 'langeel' or 'bendi' that were recorded by Lumholtz in the Rockhampton district. She noted there is no ethnographic evidence that places these items on the Herbert River where the stencils are located. Hand stencils, also found at Mount Claro, are also rare in Brayshaw's study area.

Table 3.1 List of known art sites in Wet Tropics WHA and its margins.

| Site | Published Record | Unpublished Record |
|-----------------------|--|------------------------------------|
| Helenvale | | Horsfall 1987 |
| Daintree | McConnel 1935 | Horsfall 1987 |
| Mount Peter Botte | | Le Seouf 1896 |
| Mossman Gorge | | Horsfall 1987 |
| Mount Carbine | Edwards 2007 | |
| Palmer River Granites | Edwards 2007 | |
| War Dance Hill | Edwards 2007 | |
| Yule Point | Edwards 2007 | |
| Turtle Cove | Edwards 2007; Skeene 2008 | |
| Bare Hill | Edwards 2007; Clegg 1983; Cole and David 1992; Horsfall 1994; Horsfall and Hunter 1998; Layton 1992; Seaton 1951 | Brown 1993; Clegg 1978; Walsh 1986 |
| Davies Creek | Edwards 2007 | Brown 2003; Horsfall 1987 |
| False Cape | | Cole and Horsfall 2006 |
| Brown Bay | Seaton 1952a, b; Tindale 1952; Wood 2016b | Gunn and Thorn 1994 |
| Yarrabah | Thompson 1989 | |
| Oombunghi Beach | Dixon 1983; Thompson 1989 | |
| King Beach | | Cole 1984; Horsfall 1987 |
| Bessie Point | Edwards 2007 | Horsfall 1987; David 1994 |
| Bartle Frere | Lumholtz 1889 | |
| Tinaroo | Edwards 2007 | Horsfall 1987 |
| Walsh's Pyramid | | Cole n.d; Horsfall 1987 |
| Jiyer Cave | Cosgrove and Raymont 2002 | Horsfall 1987 |
| Chris's Cave | | Horsfall 1987 |
| Grandmother's Cave | | Cosgrove 1999 |
| Frog Cave | Palmerston 1887 | Cosgrove 1999 |
| Kennedy A & B | Bolton 1965; Brayshaw 1990; Dalrymple 1865; Edwards 2007; Ward et al. 1999 | Gunn and Thorn 1994 |
| Mount Carruchan | | Gunn and Thorn 1994 |
| Cassowary | | Gunn and Thorn 1994 |
| Herbert Valley | Johnstone 1904 | Ray 2006 |

| | | |
|---------------|--|---|
| Dunk Island | Banfield 1908; Trezise and Wright 1966; Woolston and Colliver 1975 | |
| Silver Valley | Edwards 2007 | Gigacz 2012; Seaton 1952c |
| Mount Claro | Brayshaw 1990 | Gunn and Thorn 1994 |
| Rocky Point | | Cole in association with Giringun Aboriginal Corporation 2010 |
| Watercress | Brayshaw 1990 | Gunn and Thorn 1994 |
| Jourama Falls | Edwards 2007 | |

In addition to the rock art investigations, Brayshaw conducted archaeological excavations of four rock shelters, two in the Wet Tropics (Kennedy A and Jourama) and two in the Dry Tropics (Harveys Range and Mount Roundback). Each of the excavated sites also had rock art. The aim of the excavations was to determine if patterns seen in the rock art were also found in the archaeological record and to determine a chronology of cultural variation in the cultural deposits. Skeletal remains were found in three of the excavations (Kennedy A, Jourama and Harveys Range B) between 7 and 40 cm depths. Jourama and Harveys Range A contained the remains of at least 17 and seven individuals respectively. The excavations were restricted because of the presence of skeletal material, Kennedy A was abandoned at 45cm and Jourama at 30cm. Ochre was present in each of the sites, primarily in the top layers. The oldest datable sample was 1650 \pm 120 years BP, and none of the deposits were considered to be older than 2000 years (Brayshaw 1990:210).

When Horsfall commenced her PhD in 1984 the oldest date for rainforest occupation was 700 years from Kennedy A by Brayshaw and 200 years at Jiyeer Cave by Campbell (Horsfall 1987:258). Horsfall re-excavated Jiyeer Cave to reveal the first detailed chronology of Aboriginal occupation of the rainforest which revealed that Aboriginal people had been using the cave for over 5000 years, with peak occupation in the last 1500 years. A large amount of nut shell was found throughout the excavation, indicating that nuts had been a significant component of the rainforest diet. Horsfall recorded four motifs, and traces of a fifth, at Jiyeer Cave. She noted the presence of frog-like anthropomorphic figures similar to Brayshaw's Kennedy character, Palmerston's frog and the anthropomorphs recorded by Clegg at Bare Hill. Similarities have been noted between anthropomorphs at Bare Hill and Laura (Clegg 1978; Cole and David 1992; Layton 1992).

Later, as Regional Archaeologist, Horsfall conducted extensive fieldwork in the rainforest and other parts of north Queensland. Horsfall's meticulous site records and field notes, many of which were lodged with the State Heritage Branch, provide a significant contribution to the

documentation and management of north Queensland's cultural heritage, in the Wet Tropics and beyond. Horsfall recorded many of the sites we visited for this study and her information proved to be useful in both relocating the sites and in observing changes through time. Horsfall's detailed knowledge of rock art, dendroglyphs and other aspects of Aboriginal cultural heritage in the Wet Tropics combined with her meticulous site records have been extremely valuable contributions to this research.

Cosgrove and Rayment (2002) built on Horsfall's work at Jiyer Cave, including re-recording the rock art. Using fluorescent lights and observations during wet conditions, they could observe many more motifs than previously recorded, including anthropomorphic, zoomorphic, linear designs and panels of dots (Cosgrove and Rayment 2002). At least five anthropomorphic figures were counted on the ceiling with bent 'arms' and 'legs', some with 'tails' and some outlined in black. Zoomorphic figures included 'fish', 'insects', 'birds' and a 'stingray'. Abstract and geometric shapes included meandering lines, groups of dots and crosses. Cosgrove and Rayment's (2002) work is one of the most detailed published records of rock art in the Wet Tropics.

Surveys conducted on the North Johnstone River revealed a few painted basalt rockshelters, reported in an unpublished report to Mamu Aboriginal Corporation (Cosgrove 1999). A handful of sites were found over five days of intense survey but as the report is unpublished details will not be included here. None of the sites appear to have been previously recorded and this work highlights both the potential for unreported rock art to be present in remote areas of the rainforest and the difficulties of surveying for new sites. Cosgrove was well resourced using a helicopter and a boat to access the sites and was accompanied by Aboriginal custodians and students to conduct site surveys in two teams over five days. It is unlikely these sites have been revisited.

Brayshaw's (1990) recording of 'Kennedy characters' with 'frog like' upturned appendages at every site on the Herbert River are possibly the southern limit for the Laura naturalistic painted forms (see also Horsfall 1987). Zoomorphic motifs, particularly cassowary, kangaroo, dingo and lizard are described in rock art from Browns Bay, Kennedy and Herberton (Brayshaw 1990; Gunn and Thorn 1994, Seaton 1952a, 1952b). Paintings identified as shield designs are recorded in coastal rockshelters at Yarrabah and Dunk Island, also outside the Wet Tropics, near Townsville (Goldfinch 2014; Hatte 1992; Seaton 1952a; Trezise and Wright 1966). Observations point to a rainforest style of rock art that is dominated by painted figurative anthropomorphs and zoomorphs with some material culture.

3.4 Dendroglyphs of the Wet Tropics

Records of Aboriginal dendroglyphs are scarce, virtually all information on the rainforest dendroglyphs come from information provided by Department of Forestry employees to Gordon Grimwade in 1988 (Grimwade 1990). Records of rainforest dendroglyphs originate with the Department of Forestry, a state government department that regulated logging activity in the rainforest until World Heritage was declared and logging activities ceased in 1988. One of the roles of foresters was to identify specific conditions under which logging of certain areas would be permitted. Aboriginal sites including bora grounds and campsites were often marked on Forestry maps and protected as no-go areas. Several dendroglyph sites, particularly in the Tully River catchment, were also identified in this way.

Few of the original Department of Forestry records have survived and nearly all the information we have on rainforest dendroglyphs comes from a single study led by Grimwade (1990, 1993, Grimwade et al. 1995) in 1989. Grimwade's project aimed to document the remaining dendroglyphs with the assistance of ex-Forestry employees, and his information includes field maps, photographs and preservation assessments of 15 dendroglyph sites (Grimwade 1990). Without Grimwade's 1989 research and his meticulous field notes and site data, many of these dendroglyphs would not have been found again. Between 1989 and 1990 Grimwade and his team inspected nine carved trees at six sites and described a further six trees from secondary information. Grimwade also visited sections of a dendroglyph removed to the Queensland Museum. Grimwade's (1990) report was lodged with the Queensland Cultural Heritage Branch but due to policies that control access to information on Aboriginal site locations, it remains unpublished and prior to this research many Aboriginal custodians were unaware the report existed. Grimwade's (1990, 1993, et al. 1995) reports and field notes includes information collected from individuals previously employed by Department of Forestry.

Only a handful of individual dendroglyphs have been recorded outside of the Tully River catchment. One is an anthropomorph in the remote Mount Windsor Tableland, identified by Forestry workers. A group of dendroglyphs at Mystery Creek, near the Russell River were documented by Horsfall (1990). It is possible that tree carvings identified as 'Chinese hieroglyphs' in the Barron Gorge National Park are in fact Aboriginal dendroglyphs. Carvings from one tree on upper Freshwater Creek were salvaged after the tree had been logged, the bark has been removed in sections and is stored in the Queensland Museum. A second carved tree was noted at two miles distant, but was not preserved and was probably logged for its valuable timber.

Few historical references to Aboriginal tree designs have been located in the literature although two reports suggest that painting on bark (arboglyph) was another form of decorating living trees

in north Queensland. In an article published in the Cairns Post (1885) an 'occasional correspondent' described seeing an 'Egyptian or Chinese hieroglyph' beautifully 'painted in yellow, red, and black' on the flange of an Aboriginal burial tree in the lower Mulgrave River. The author notes the resemblance of one motif to Egyptian hieroglyphs and another on the opposite of the same branch to Chinese characters but dismisses the image as Aboriginal because 'the artist who ingrained them must have had, imagination and learning, two qualities with which we do not credit the 'aboriginal''. However, the association of the motifs with the Aboriginal tree burial, a distinct marker of rainforest Aboriginal cultural practices, and the use of colours common in rainforest shields suggests Aboriginal origin.

The practice of decorating trees with charcoal was recorded by Banfield (1908) who arrived on Dunk Island in 1898. He makes one comment, that 'our blacks still decorate rocks and the bark of trees with rude charcoal drawings' (Banfield 1908:151). It is uncertain where the rock art or arboglyphs were made, or by whom. But it is interesting that Banfield noted the production of stone axes, shell fish hooks and bark blankets had ceased in favour of European materials while the practice of rock art and arboglyphs continued.

The Wet Tropics World Heritage Area was one of the most heavily logged areas of Australia. Within three years of Dalrymple's glowing reports, twelve pairs of sawpits were in operation (Birtles 1997). Government formalised its role in the logging industry when the Forestry Branch opened as part of the Lands Department in 1900 and became an independent Forestry Service in 1920 when it expanded significantly with a recruitment of returned soldiers (Dargavel and Moloney 1997). Over the next sixty years state forests were surveyed systematically by individuals including traverses and estimators whose job was to mark individual trees for harvesting, estimate the value of stands of timber and identify potential tracks, clearings and preservation areas. Forestry employees became intimately familiar with the individual trees within their districts, and ironically, contributed significantly to the protection of the dendroglyphs that we know of today.

Mount Windsor carving

Queensland Forestry Service (QFS) rangers first located this carving when they were marking the Adeline Creek Road across the plateau. Steve Kitchener was working as a chainman for QFS in 1979 or 1980 when he first saw the tree (S. Kitchener pers comm., May 2015). The immediate area around the tree was preserved from logging activities and road construction. The Adeline Creek Rd (now a narrow, overgrown and in many places heavily eroded track) passes to the east of the tree. For about eight years, before Mount Windsor was closed to logging activities, vehicles

could drive to within 50 metres of the tree. Very few people have visited the tree since the Adeline Creek Road was closed to vehicles in 1988. It is described in detail in Chapter 6.

Freshwater Creek carvings

Grimwade reports on two carved trees in the Upper Freshwater Creek catchment. One carving was removed in pieces by Department of Forestry prior to the construction of the Copperlode Falls Dam, the other was considered too deteriorated to salvage. Grimwade inspected the pieces at the Queensland Museum in 1989. Archival information relating to the Freshwater Creek carvings is documented in Chapter 6.

Francis Range Lettering

Carvings resembling European lettering are reported on a Black walnut (*Endiandra palmerstonii*) about two kilometres north of the confluence of the Beatrice and Johnstone Rivers. Chris Mansfield, working for Department of Forestry, located the tree in 1969 when traversing a remote section of the Francis Range estimating the value of timber selections for logging (Grimwade 1990). The area was never logged and there no roads, logging tracks or walking trails to access the area. In 1969, the tree had an approximate girth of six metres at breast height. Information on this carving comes from only one source, Chris Mansfield's field diary, transcribed into Grimwade's field notes. A sketch of the letters from Grimwade's field notes is shown in Figure 3.7. Near the tree a broken bottle base with the letters TEM was found and it was presumed that the letters carved into the tree were an attempt to copy the letters on the base of the bottle. Very few non-Aboriginal people have ever accessed this remote and inaccessible area and the carving is almost certainly Aboriginal in origin.

This is not the only recreation of European lettering by Aboriginal people. In 1862 near Brisbane, a small group of Aboriginal people asked settler Tom Petrie to carve his cattle brand into their arms (Van Toorn 2014). While the reason for this request is not known, Van Toorn (2014) suggests it could have been a way for the men to be recognized as part of the European economic system or to ensure protection as valued workers owned by Tom Petrie. It is possible purpose of carving of letters from a broken bottle on a tree in the Francis Range was to invoke magic of some kind, perhaps as a way of harnessing the power of the Europeans, or to repel them (e.g. see Greer et al. 2005). It could simply be coincidence that the letters on the bottle were found near a similar tree carving as the sketch shown in Figure 3.7 was made from memory many years after it had been found.

An attempt was made to relocate the Francis Range tree and associated Aboriginal artefacts in 1990 (Horsfall 1990), and while this tree was not relocated, another carved walnut, the Mystery Creek Oval, was located.

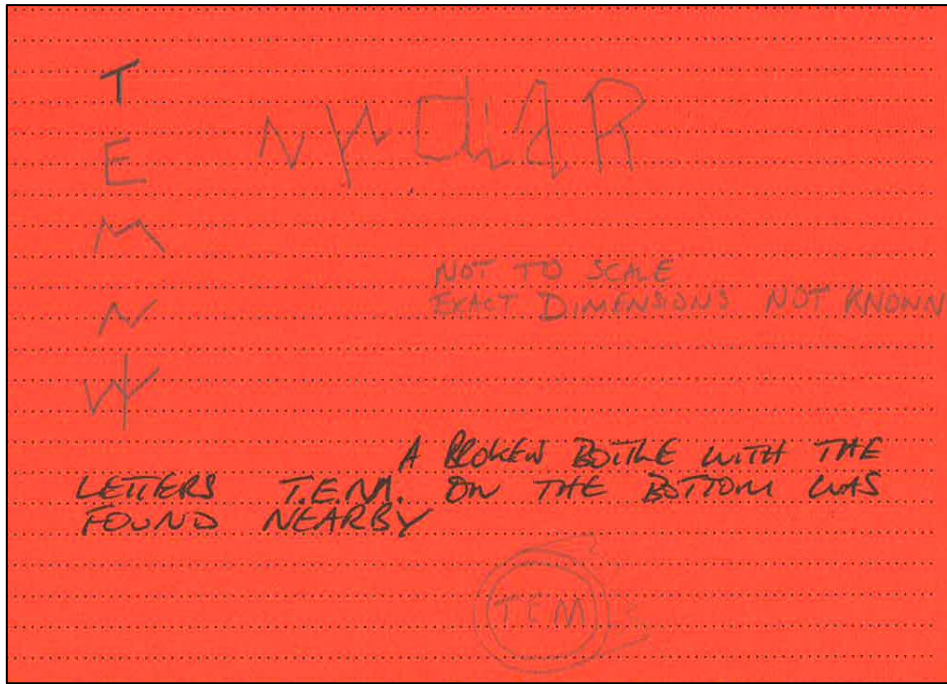


Figure 3.7 Sketch of Francis Range carving (RD:03) made in Grimwade's (1989) field notes from sketch made by Forestry employee in 1969 (image courtesy of G. Grimwade).

Mystery Creek Oval

The Mystery Creek carving is a single oval shape carved into the bark of a medium sized Black walnut (*Endiandra palmerstonii*) (Horsfall 1990). Drs Nicky Horsfall and Rod Catton located the Mystery Creek walnut in 1990 during a nine-day expedition in the Francis Range. This carved oval was in a cluster of Black walnuts in the same approximate area as the Francis Range tree. It was suggested that the tree with the lettering may have been destroyed by cyclone Winifred four years earlier (Horsfall 1990). The Mystery Creek carving was photographed and a record lodged with Cultural Heritage Branch (Horsfall 1990).

K Tree Road carving

The K Road carved tree is an indistinct zoomorph carved into a McIntyre's Box (*Xanthophyllum octandrum*). Grimwade's field team recorded the tree in 1989 with employees of the Queensland Forestry Department. The dendroglyph is reported to be an abstract figure with zoomorphic characteristics. The tree measured 900 mm in width and 300 mm in height in 1989 (see Figure 3.8 reproduced from Grimwade 1990). McIntyre Boxwood are known to grow very slowly and, based on its girth, in 1989 informants previously employed by the Department of Forestry estimated the tree to be 400-450 years old.

The tree was found near a brushed track (a narrow path through the forest made with a brushhook) which formed the state forest/national park boundary, reputedly one of the Aboriginal walking tracks used by Christie Palmerston (Grimwade 1990). The state forest has since been

incorporated into Wooroonooran National Park and the track is no longer navigable. Access to the tree was described in relation to the track and a powerline, which was subsequently removed and the corridor revegetated.



Figure 3.8 K Tree Road carving (image courtesy of G. Grimwade).

Tchuken bora ground

In 1952 Douglas Seaton described a giant lizard, reptiles, a cassowary without legs and other designs carved into the bark of a single 'black oak' (species not identified) at the edge of Tchuken bora ground. Seaton (1952) describes the designs as starting at nearly two metres and extending to three metres above ground level and covering three quarters of the circumference. His sketch is shown in Figure 3.9 (Grimwade 1990: following page 22). This is the only report of this tree. Despite an extensive search, it was not located by Grimwade's team in 1989.

Another tree recorded at Tjunga (Chunga) bora ground was found to be misidentified and the result of European disturbance. Seaton's description of the Tchuken tree is the only reference to a carved tree at a bora ground in the Wet Tropics.

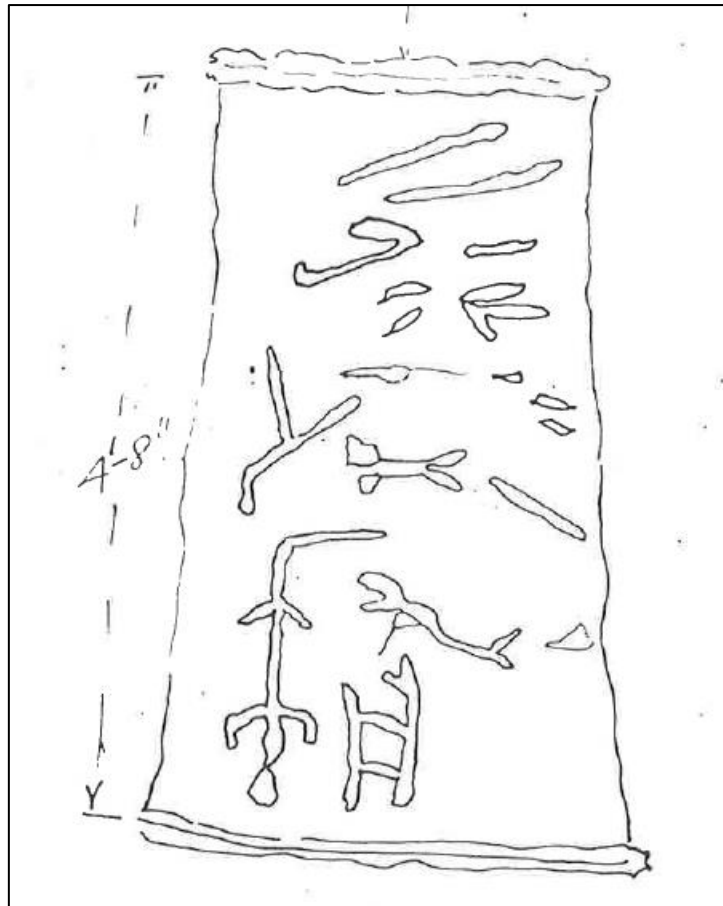


Figure 3.9 Sketch of the Tchucken bora ground carving (RD:06) made by Seaton in 1950 (Grimwade 1990, following p22).

Maple Creek

In 1989, an unnamed ex-Forestry employee provided Grimwade with a vague description of the carved tree(s) near Maple Creek. Grimwade (1990:21) describes it as being 'on a high plateau' and featuring 'five or six Black walnuts (*Endiandra palmerstonii*) with carvings. An informant referred to the common 'arc' shapes as well as a lizard design'. In 1989 Grimwade's team attempted to relocate the trees, but extensive damage from Cyclone Winifred three years prior made it impossible to access the plateau. This site was investigated in 2014 (see Chapter 6).

Charappa

A cluster of seven trees were recorded by the Forestry Department at Charappa in 1969. This is the only cluster of dendroglyphs that has been recorded, although another cluster of carvings was reported to be nearby, along with other carvings on Black walnuts (*Endiandra palmerstonii*). Department of Forestry employees established a preservation zone around the trees with a buffer of approximately one hundred square metres, marked with a brush cut track and paint on tree trunks and in this way this site was protected from logging activities. In 1989 Grimwade's field

team led by Darrin Lee Long, relocated four of the seven trees. It was presumed the other three trees had been destroyed by cyclone Winifred a few years prior (Grimwade 1990). Artefacts, noted in Forestry records, may now be part of the Forestry collection that was distributed to Aboriginal custodians. The Charappa trees are described in Chapter 6.

Koombooloomba Carving

The Tully Falls Road carving is a large abstract design on the buttress of a Black walnut (*Endiandra palmerstonii*). It is easily accessible and has probably receives a low level of visitation, including Aboriginal custodians. A series of state government site cards have been completed for this site. In 1972, it was recorded by Mr R. Rimmer, a Ravenshoe school teacher; it was recorded again by 1976 Bruce Butler, a state ranger; and in 1989 Gordon Grimwade (1990) recorded the tree. As part of the recording process Grimwade and the Queensland Museum made two fibreglass casts of this dendroglyph, one of which is on display at the Ravenshoe Visitors Centre. This cast was used to monitor changes over time (see Chapter 6).

Costigan Creek

In 1972 and 1987 a carving at Costigan Creek was recorded for the state heritage database. By the time the motif was recorded in 1989 it was very poorly preserved and ‘in imminent need of attention’ (Grimwade 1990). The motif is described as a dog, a man and a cassowary carved into the bark of a Black walnut (*Endiandra palmerstonii*), although this appears to be based on previous records as the figure was no longer discernible in 1989 (Grimwade 1990). The tree had a girth of 3.5 metres at breast height and the dendroglyph started 0.7 metres above ground level. Only the base of the dendroglyph could be determined and no further measurements are provided.

Remote Yellow walnut

An abstract motif in a very remote location was reported by Forestry employees. There are two site records for this site, one made in 1987 and the other undated. The motif is described as an abstract carving with some insect damage one metre in length and 1.1 metre wide. The base of the carving starts 0.9 metres above ground level on a Yellow walnut with a girth of 0.8 metres at one metre above ground level. Figure 3.10 is a sketch from the 1987 site record card made by Forester Barry Struber. It is unlikely this site has been revisited since 1987 due to the extreme remoteness and lack of records about its location and access.

An undated site record card, probably made prior to 1988 when logging ceased in the Wet Tropics World Heritage Area, states ‘it would be almost impossible for anyone to find this site without a guide who knows where it is’. Due to the remoteness of its location, it is unlikely this tree could be relocated with the existing information.

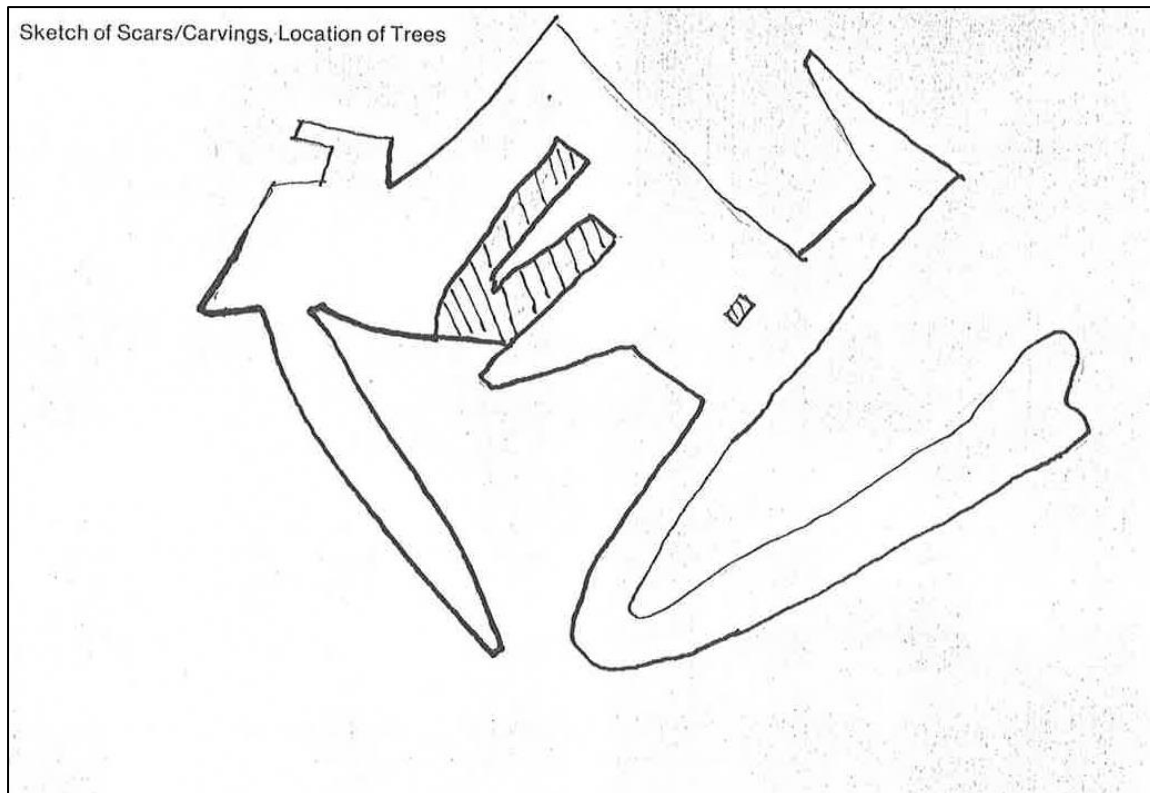


Figure 3.10 Sketch of remote dendroglyph made by B. Struber in 1987. It is unlikely this site has been visited again since logging ceased in 1988 (sketch from DATSIP Site Record FM:A45).

O'Leary Road

This dendroglyph site consists of two motifs on a Silky Oak (*Cardwellia sublimis*) in a remote location near Koombbooloomba Dam. The main motif is a male anthropomorph with upraised hands, male appendage and parallel lines across the chest. The figure is holding an object in its right hand, which has been interpreted in site records as a boomerang. The second motif is an 'X' carved above the head of the main figure.

In 1987, a site record card made by B. Struber of Forestry Department describes the presence of a grinding dish 10 metres from the tree. The grinding dish is not mentioned in a subsequent record made by Collins (Grimwade 1990) and may have been collected prior to Collin's inspection. The Forestry Department maintained an informal collection of stone tools, some of

which were distributed to Aboriginal custodians and the grinding dish may be in one of these collections³.

Grimwade and the Queensland Museum made two fibreglass casts from this figure in 1991. Grimwade gifted one of the fibreglass models to Wabubadda Prescribed Body Corporate in 2015. I observed the second cast on display in 2014 at Menmuny Museum, Yarrabah, but it was removed from the collection to an unknown location before a subsequent visit January 2016.

The first known written record of this tree is correspondence from the Forestry Overseer to the District Forester stating that a brushed track and painted line had been placed around the tree. Grimwade's field notes contain a compass and tape map showing access to the tree from O'Leary Road (now closed). Attempts were made to visit this tree (see Chapter 6).

Cardwell Range

There is almost no information on this dendroglyph except that it exists, was seen by Forestry workers prior to 1972 and would be very difficult to locate again. Grimwade (1990) reports that the grid reference provided by Forestry places this carving at the western foot of the Cardwell range possibly near a permanent water source.

Unnamed Yellow walnut

A single tree with five motifs is reported from the Koombooloomba area. Three site records exist for this site, one by B. Struber (Forestry employee) from 1987, one undated by I. Owens (Aboriginal ranger) and the third by S. Collins (Grimwade 1990). Motifs consist of three diamond shapes, a cluster of four parallel lines and two opposing arcs. Motifs are each between 99 and 154 centimetres above ground level and all between fifteen centimetres long and thirteen centimetres wide (Table 3.1). The tree is a Yellow walnut (*Endiandra palmerstonii*) with a girth of 2.1 metres at breast height and was reported to be in good condition when last visited in 1989. The description provided here is from Grimwade (1990). Grimwade (1990) describes 'chop' marks – lines that make the dendroglyph appear as a series of small chopped sections in the bark of the tree – that provide some indication that, at least some of the dendroglyphs, were made with chopping action from an axe or similar implement.

³ At least some of the Forestry artefact collection are currently held by Mamu and Ngadjon Traditional Owners, including a large grinding dish (Buhrich 2015c).

Table 3.2 Dimensions of diamonds, arcs and parallel lines carved into yellow walnut in Koombooloomba area (Grimwade 1990).

| | Height of base of scar above ground level (metres) | Length of scar | Width of scar |
|-----------------------|--|----------------|---------------|
| Diamond | 1.54 | 16 | 17 |
| Diamond | 1.52 | 23 | 20 |
| Parallel lines | 1.18 | 47 | Not recorded |
| Arc | 0.99 | 15 | 15 |
| Arc | 0.99 | 16 | 13 |

3.5 How old is Wet Tropics rock art

There have been no attempts to directly date rock art in Wet Tropics. However, ochre found in archaeological deposits at rock art sites can provide some indication of art production at the sites. For example, ochre was found at all levels of stratified deposits at Jiye Cave, suggesting some kind of art production had taken place since it was first occupied (Horsfall 1987). Ochre was also found in excavations at rockshelters in the Herbert River catchment, although these excavations did not reach sterile ground and so cannot provide a maximum age depth for occupation (Brayshaw 1990). Observations of rock art over time provide a valuable record of the deterioration and preservation of rock art in the Wet Tropics. Three of these are presented below.

Kennedy A

Kennedy A is the largest of a cluster of granite rockshelters in the Kennedy Valley near Cardwell. It is around 18 km from the coast at 250 metres above sea level and in a transitional vegetative area between rainforest and open woodland (Ward et al. 1999). The site contains figurative and non-figurative painted motifs, dominated by two bichrome images of dingoes and anthropomorphic 'Kennedy characters' (Brayshaw 1990:126). Ward (et al. 1999) compared a series of historical photographs to assess the preservation of motifs at Kennedy A. Specifically they used photographs of the two dingoes taken at three time periods – between 1919 and 1974, in the mid-1970s (by Brayshaw) and in 1998. The series of photographs clearly illustrates the deterioration of the figures over this time. In the earliest photographs, the outline and infill of the dingo motifs and surrounding motifs are clearly visible, in 1974 they are faded and in 1998 they are completely obscured. Ward et al. (1999) conducted a detailed investigation of the microclimatology of the site and determined the constant wetting and drying cycles and instability in the rock surface was contributing to paint residue loss. Based on the photographic evidence, Ward et al. (1999) identified accelerated loss over the twenty-five years prior to the research. This study is the only detailed study of microclimatology conducted at rock art shelters

in the Wet Tropics, however it is likely that other granite shelters in areas of high humidity suffer from the same preservation effects.

It is interesting to compare the observations of Ward et al. (1999) with Edwards (2007) who sketched motifs at Kennedy A in 1965. Edwards lamented vandalism at the site, specifically white chalk outlines that had been made over three original paintings, a dingo, anthropomorph and a zoomorph (Edwards 2007:130). Like Ward et al. (1999), Edwards (2007) observed that the flaking rock surface was contributing to the loss of paintings at Kennedy A, and noted the impacts of soot build up on the preservation of the paintings.

Dunk Island

Two rock art shelters with painted motifs on the underside of granite boulders are recorded on Dunk Island (Trezise and Wright 1966). When Wildsoet was shown the caves by the local Aboriginal residents on the island in the 1890s, he recalled 'three caves - one with rocks, all rocks where the paintings are, and next one, the big one, (they) are frightened of it and they wouldn't go in' because of the swifts that came out and 'blinded you' (cited in Woolston and Colliver 1975:6). He described the caves as 'three in a line' but noted sand had subsequently blocked the entrance to the third cave. Banfield (1908) recorded rock art at Dunk Island (presumably the same sites visited by Wildsoet) in a series of drawings (e.g. Figure 3.11).

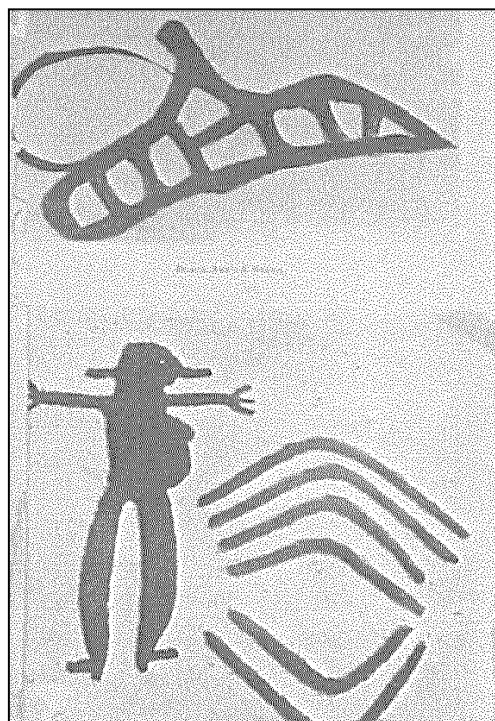


Figure 3.11 Banfield's (1908) sketches of Dunk Island rock art (image courtesy of Cairns Historical Society).

Seventy years later, armed with Banfield's sketches, Trezise and Wright (1966) revisited the Dunk Island sites to investigate the durability of the paintings. They named the shelters the Upper and Lower Studio, the Upper Studio being 600 feet above sea level and the Lower Studio near sea level. Trezise and Wright compared Banfield's sketches with their own observations. All six paintings recorded by Banfield in the Upper Studio were re-recorded. Trezise and Wright (1966) noted that the roof of this shelter was permanently dry and therefore the paintings protected from wetting/drying events. Paintings in the Upper Studio were found to be relatively well preserved and Trezise and Wright (1966) concluded the constantly dry ceiling was considered the main preservation factor of the motifs.

Brown Bay

Dudley Bulmer, a resident of Yarrabah Mission, created some of the most recent paintings in the Wet Tropics, reported by Seaton (1952a). The repainting of the Brown Bay rock art provides an interesting glimpse into the way Aboriginal people engaged in the tourism industry through the creation of Aboriginal art, not just portable artefacts. Bulmer played an active role in the tourist experience at Koombal Park, where owner Mr Berkeley Cook ran a small zoo and provided a tour of the rock shelter for visitors who arrived by boat from Cairns (Seaton 1952a; Wood 2016b). Bulmer was an interesting character, not a Gunggandji custodian of the area, but a recent resident forcibly removed to the Yarrabah Mission under the Aboriginal Protection Act. Bulmer's traditional land was Starke, north of Cooktown, an area rich with sandstone shelters and rock art (Wood 2016b). Bulmer used visual expression to convey his own social and geographical identity (Wood 2016b).

In 1952, Berkeley Cook invited Seaton to meet Bulmer and document the art and Bulmer's interpretations of the motifs (see also Chapter 8). Photographs held by Cairns Historical Society show Bulmer, with what appears to be fresh paintings on the rock behind him, during this visit. No records of the site prior to 1952 have been located, but Seaton describes Bulmer repainting the site on request from Yarrabah Elders, suggesting the site was already painted. It is one of several painted sites in the Yarrabah area.

Seaton (1952a) wrote:

The rock paintings to the rear of Mr Berkeley Cook's cottage were described by me early in the year and since this time Dudley has repainted the whole of the figure and added some new ones. He has outlined all the figures I recorded and several that I could not identify. He has painted them in the traditional colours of red (woopa), yellow (murraka), white (kopa) and black (bookan), and has stippled

Post contact markers

Post contact motifs can provide a relative chronology for rock art. The depiction of boats in coastal Wet Tropics rock art must have been produced after they were viewed by the artist, the first of which was Captain Cook's Endeavour. There are multiple claims that paintings in the Yarrabah area depict Captain Cook's boat and anchor, which is rumoured to have been left by Captain Cook in Mission Bay after he anchored there overnight in 1788. Bulmer claimed to have repainted a motif depicting Cook's anchor in 1952 (Figure 3.12 top right) (Seaton 1952a), although this motif is also interpreted as a shield (Edwards 2007). The depictions of boats could be any one of the boats that commonly sailed past from the 1850s onwards. Examination of the boat motifs and anchor may provide clues about the type of vessel the image was depicting. At least one other depiction of a boat can be seen in Le Seouf's 1896 photograph (Figure 3.6) although no written record accompanies the image and it does not appear in any subsequent records. Unlike other parts of Australia, there are no depictions of introduced animals or material culture.

A Late Holocene visual culture

A review of the literature suggests that the Wet Tropics rock art has relatively poor long-term preservation, although this is dependent on specific conditions at each site. The paintings are highly vulnerable to climatic fluctuations, particularly moisture (Edwards 2007; Trezise and Wright 1966; Ward et al. 2009). In some places, such as Kennedy A and Brown Bay, rock art exposed to constant wetting and drying conditions deteriorated to virtual non-existence over just twenty years (Edwards 2007; Ward et al. 2009) while at the Dunk Island shelter the paintings, protected from moisture, remained unchanged between the 1900s and the 1960s (Trezise and Wright 1966).

It has been estimated that the Wet Tropics rock art currently visible is no older than 500 years, based on the rapid deterioration of paintings and lack of chronological markers such as extinct fauna or introduced animals (Gunn and Thorn 1992:146). This is a similar estimate to the rock art of the Torres Straits. Although the oldest evidence for rock art production in the Torres Straits is 1200-1400 years ago, the visible rock art motifs are thought to have been created only in the last few hundred years (McNiven et al. 2009:29). The poor preservation of Torres Strait imagery is due to the harsh coastal climate and granite substrate (McNiven et al. 2009).

3.6 How old are the dendroglyphs

Estimating the age or growth rate of trees in the Wet Tropics World Heritage Area is extremely difficult because of the factors unique to rainforest environments. Seedlings can live for many years on the forest floor until there is a break in the canopy when they then have a huge growth spurt to reach towards the light (Connell and Green 2000). Changes in altitude, rainfall, soil and

temperature across the Wet Tropics mean that the same species of tree may have different growth rates depending on whether it occupies coastal lowlands, cloud forest or eco-tone environments. Measuring tree rings (dendrochronology) and other growth attributes can provide estimates of the age of rainforest trees, however not all rainforest trees have regular annual growth rings, and like radio carbon dating, dendrochronology requires a sample to be removed from the core, which could weaken the tree structure by facilitating insect attack or fungal growth. My desktop study of the growth rates of specific tree species indicates that the dendroglyph trees can reach a substantially old age and are likely among the oldest individual trees in the Wet Tropical World Heritage Area.

McIntyre Boxwood (*Xanthophyllum octandrum*) are one of the longest growing Wet Tropics rainforest species. Odgen (1981) measured the rate of growth of 31 McIntyre Boxwoods over 22 years at a plot on the Atherton Tablelands. Using observation of growth rates, Odgen (1981) estimated McIntyre Boxwood's could live for a staggering 3500 years, although radiocarbon dates of tree with a 58cm DBH (diameter at breast height) provided dates of 620 ± 100 years.

Three dendroglyphs are recorded on McIntyre boxwood, with diameters at breast height of 41, 67 and 73cm. Based on comparisons with Odgen's (1981) radiocarbon date of the McIntyre Boxwood with 58cm DBH, the two largest of these could be older than 600 years old. Although this provides only an imprecise age estimate for the carvings, it does raise the possibility that the dendroglyphs could survive for hundreds of years on certain tree species.

Without radiocarbon dating, measurements of tree girth cannot provide an exact age of the trees, but they do provide some indication of comparative age. Queensland Department of Forestry maintain sample vegetation plots of 'Old Growth' forest across the Atherton Tableland. Vanclay (1991) monitored tree growth from 48 of these plots, including virgin forest, logged forest and forestry plots. The DBH of walnut species from these plots is of particular interest. Vanclay (1991) recorded a maximum DBH of 116cm from 388 Yellow walnuts (*Beilschmedia bancroftii*) and 113cm DBH from 94 Black walnut's (*Endiandra palmerstonii*). The largest Yellow walnut with a dendroglyph has a DBH of 177cm, which is 30% larger than Vanclay's (1991) maximum record while four carved Black walnuts (*Endiandra palmerstonii*) have girths measuring 159, 171, 190 and 191cm DBH, each of which is larger than Vanclay's (1991) maximum observation for the same species (Figure 3.13). Without direct dating, it is difficult to estimate the age of these trees, but it appears that trees that have dendroglyphs are very old examples of their type. Large trees that survived logging are potentially hundreds of years old, and possibly older than much of the Wet Tropics rock art.

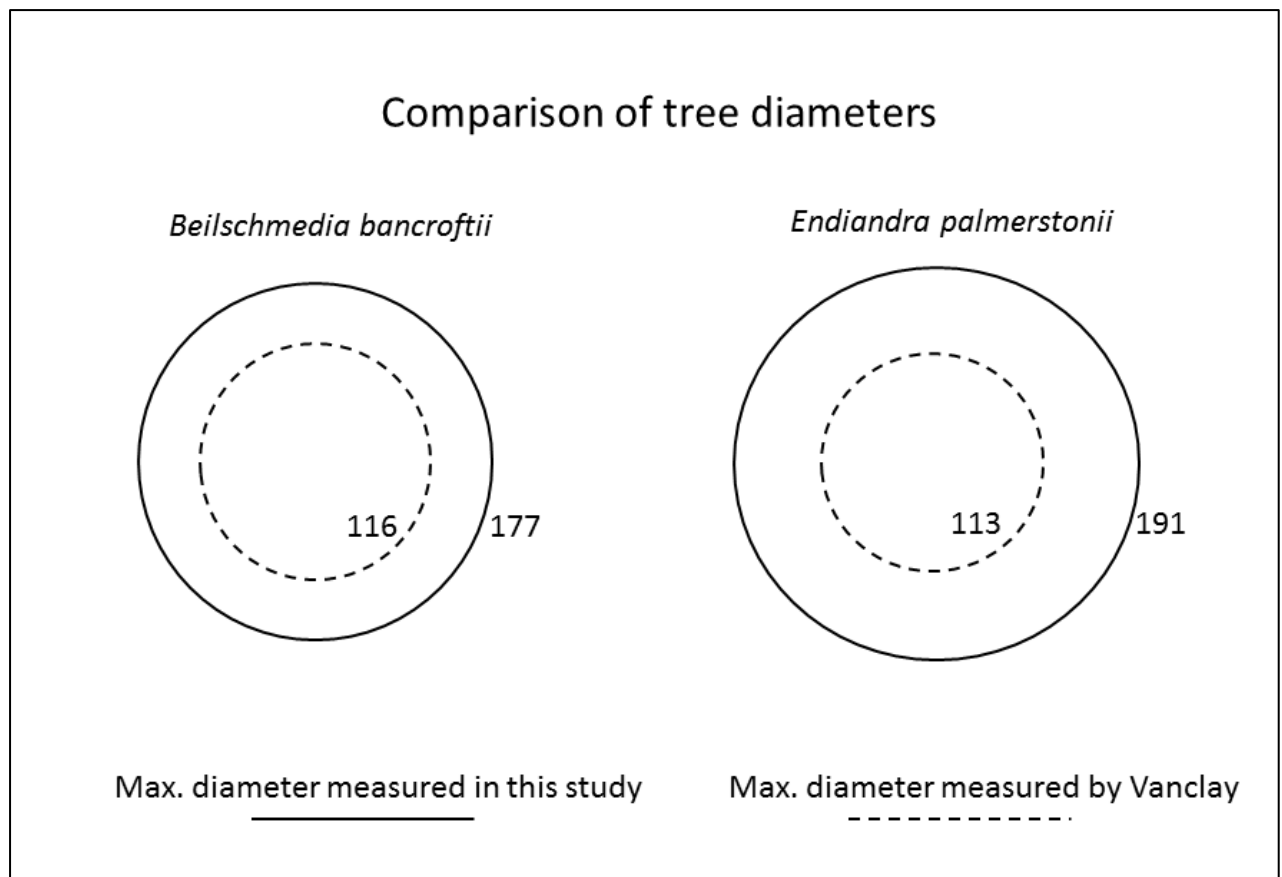


Figure 3.13 Comparison of Vanclay's (1991) maximum diameter (dashed line) and dendroglyph diameter (solid line) *Beilschmedia bancroftii* (left) and *Endiandra palmerstonii* (right).

A unique Late Holocene culture

The Late Holocene saw an explosion of creativity in visual expression, technology and social networks in Aboriginal Australia. In the Wet Tropics, the form and decoration of baskets, stone tools and shield designs displayed inter-regional identities including clan and language affiliations. Rock art and dendroglyphs were an integral component of Late Holocene Wet Tropics visual expression. Noted characters include the 'Kennedy character', similar to the Quinkan of southeast Cape York Peninsula, while rainforest shield designs in rock art near Townsville suggests relationships extended north and south of the Wet Tropics. Indigenous dendroglyphs, rarely found alongside rock art traditions, provide additional insights into relationships and connections. The following chapter describes the theoretical concepts and methodology applied in this research to investigate the role of rock art and dendroglyphs in communicating Wet Tropics social identity.

4 Research design: collaborative approaches to interpreting style in Wet Tropics rock art and dendroglyphs

The goal of this study is to investigate the relationship of style in Aboriginal rock art and dendroglyphs with social identity in the Wet Tropics. The previous chapter demonstrated that rock art and dendroglyphs were produced during the Late Holocene in the Wet Tropics. Therefore, my study is focussed on the recent past. In this chapter, I draw on rock art theories to demonstrate the value of regional rock art studies in understanding social identity. I argue that rock art methodologies are well suited to Indigenous dendroglyphs as they are both forms of visual expression tied permanently to place. Wet Tropics Aboriginal groups have consistently voiced the need for researchers to work collaboratively with Aboriginal communities and community archaeological approaches are highly relevant to my research design. Community-based archaeology requires flexibility to work within the resources, values and objectives held by individual communities and projects. While this study required different approaches to each project with each Aboriginal party, methods of data collection remained constant. Both formal data collection and informed knowledge is included, drawing on quantitative (site and motif recording) and qualitative methods (interviews with relevant Aboriginal people) together with ethnographic sources. By combining these forms of data, the rock art and dendroglyphs can be understood in context of the broader Aboriginal cultural landscapes.

This chapter begins with an overview of the theoretical approaches to interpreting rock art style. Models of regional Australian Aboriginal rock art style in the Late Holocene are presented, followed by a discussion of the use of Information Exchange and cultural landscapes in interpreting the relationship of rock art and social identity, and their application to dendroglyphs. The collaborative approach taken for this study is described, along with the protocols established through consultation and ethics requirements. Site and motif recording and interview methods are described for rock art and dendroglyphs. The chapter concludes by describing the role of the Aboriginal party in providing final authorisation for the submission of the thesis.

4.1 Understanding Australian rock art

When Bahn and Lorblanchet (1993) asked ‘is style dead?’ at the 1992 Australian Rock Art Association conference they were provocatively questioning how far typologies of rock art style could take us in interpreting the past. Among contributors to their session, there was little doubt that stylistic analysis had an important role in archaeological reconstructions, but delegates agreed the difficulty lay in the ability to anchor rock art style to reliable timeframes (Bahn and

Lorblanchet 1993). Improved methodology, critical thinking and technological advances in rock art research have made significant contributions to the discipline and rock art is now recognised as providing unique and innovative insights into archaeological theory including understanding social identity across both time and space (McDonald and Veth 2012). More recently, a provocatively titled session of the 2017 European Association of Archaeologists conference, 'Art is archaeology or it is nothing' led by Inés Domingo and Marina Gallinaro, suggests the contribution of rock art to advancing archaeological knowledge is still debated.

Formal analysis of rock art style involves analysis of specific morphological traits, while informal approaches involve working with Aboriginal informants to understand meaning (Taçon and Chippindale 1998). Formal, or 'archaeological', analysis of rock art is the interpretation of structural elements of rock art, such as technique, form and spatial distribution and must be employed when there is no informed knowledge available, for example in European Palaeolithic art (Layton 1992, Taçon and Chippindale 1998). Informed interpretations are influenced by insights offered from ethnography or the ethnographic record (Taçon and Chippindale 1998) and can include mythology, site function, landscape interpretations and phenomenology. Informed methods, also called 'anthropological methods' present an opportunity to understand rock art motifs as part of social cultural fabric (e.g. Brady and Bradley 2013; Layton 1992). Both approaches have value in rock art studies. Formal approaches do not aim to ascribe meaning to rock art, but rather categorise motifs to enable quantifiable comparisons across chronological or geographic regions. Categories of motifs can be grouped into stylistic assemblages and models developed that explain the differences and similarities between assemblages (Layton 1992). These formal, or processual, analyses developed as part of the 'New' archaeology that aimed to adopt evidence-based methodologies rather than descriptive recordings (Shackel and Little 1986:5). In rock art research, objective typologies were developed in contrast to the 'art history approach' popular in the 1950s and 1960s (Clegg 1983). Significant rock art attributes include technique, dimensions, colour and placement of motifs, and the ratio of figurative to non-figurative form (Morphy 1999; Smith 2010:221).

Detailed analysis of Arnhem Land rock art has identified detailed chronological sequences from the deep past to the present. Brandl (1973) argued that relative age could be determined through analysis of superimposition, while visual impressions and colour were unreliable factors. Based on detailed recordings of rock paintings at Cadell River, Brandl (1973) proposed two main styles, Mimi and X-ray art, based on perspective, composition and depictions material culture. When Brandl developed his thesis direct dates for rock art production were not available and no dates were linked to Brandl's proposed chronology. Twenty years later Chaloupka (1993) published a detailed chronology of Arnhem Land rock art that expanded Brandl's stylistic chronology by

placing it in the context of archaeological and environmental reconstructions of the past. Chaloupka proposed a time sequence of five phases of rock art from 50,000 years to the present based on archaeological excavations, dating of rock art and environmental change in the region. Chaloupka recognised the significance of land ownership to rock art research and included details on language groups, clan territories, moieties and sub-sections in his publication. Working directly with artists and senior custodians, Taçon's (1989) doctoral research confirmed the importance of social boundaries in rock art regionalisation in the recent past and found earlier (Pleistocene) art to be homogenous across the plateau.

Informal approaches to Australian rock art include phenomenology and ethnography. Phenomenology investigates how the individual relates to the surrounding landscape through sight, sound, touch and other sensory experiences. In terms of rock art, phenomenologists would argue that without context, the language of rock art is meaningless (Lewis-Williams 2002). In his study of Swedish Neolithic rock carvings, Tilley (1991:53) determined that design combinations are not randomly placed in the landscape, but structured according to a defined set of rules including relationships between the form of the rocks on which they occur, the landscape setting and the way in which the viewer physically perceives the carvings – Tilley (2004:79) calls this the theatrical element. The theatrical element describes the way (carved) panels and the individual images physically impact on an observer and the way perception of them is mediated through the human body self, either at rest or in movement (Tilley 2004:79). The 'theatre of rock art' takes us beyond the examination of structural attributes and employs a hermeneutic conversation between researcher and evidence; a structural analysis of rock art attributes is the start of a conversation, not the finish (Tilley 1991:114). These post-processual interpretations of rock art have been criticised as overly theoretical and lacking in objective evidence. Critics of Tilley's hermeneutic approach argue that it is too heavily theoretical (Clottes 2008:121; Smith 1995) and lacks supporting ethnographical evidence (Bradley 2008:113; Lahelma 2007; Tilley 2008:111). However, there are similarities with Tilley's interpretation of how the individual relates to the cultural landscape and Aboriginal Australians physical and spiritual relationships to land. In this research, Aboriginal custodians clearly and consistently communicated the importance of the relationship of people and the cultural landscape during our visits to the sites.

Phenomenology, combined with ethnography, provides an opportunity to interpret ceremonial and secular landscape, through analysis of motifs, site visibility and relationship to the broader cultural landscape (Brady 2005). Tilley (1995:82) argued that the ability to control viewer's perceptions of the megaliths in Neolithic Sweden provided social power. In Aboriginal Australia, social landscapes could also 'be manipulated and used for human needs', particularly by elder males (Anderson 1984). For example, initiation ceremonies of young Aboriginal men

incorporated numerous theatrical elements including sound, fear, isolation and pain, women and uninitiated men were excluded from the ceremonial sites where levels of specific knowledge would be revealed (Morphy 1999). Physical seclusion and exclusion from mothers and families are an important element of male initiation, which would suggest that if rock art sites had a role they would be 'closed' physically and visibly from the general group. If rock art was an element of controlled social landscapes, how would it manifest? Would access to a 'closed' site be controlled, or would information be encoded in imagery visible to non-knowledge holders? Phenomenology provides an opportunity to explore these concepts.

Regional rock art studies of rock art have made significant contributions to the study of Australian rock art, although not without their problems. In archaeological investigations, generally there is a lack of agreement about what constitutes a region, and how regions are defined. Despite this, both geographical and chronological regions remain an important concept in archaeological studies (Taçon 2001 Fig 17.1; Morwood 2002 Fig 2.1; Gunn 2011). Regional rock art studies gained increasing interest from the late 1980s with researchers including Taçon, Lewis, David, Cole and McDonald investigating regional rock art style (Morwood and Smith 1994:29). Many of these investigations successfully applied statistical analysis of stylistic attributes to determine relationships across space. These analyses provided mixed results. In Arnhem Land and the Sydney-Hawkesbury regional traits correlated with language distribution, however, this was not found in the greater NSW area (Taçon 1993; McDonald 1999; Officer 1992). Similarly, Layton's (1992) application of stylistic analysis to Australian rock art found little relationship between style and location, while Gunn's (2011) study of rock art and language in central Australia revealed no definite pattern in rock art style and language group.

The difficulty in determining regional style through statistical analysis illustrates the criticism raised by Bednarik (2007) that it is not possible, as an outsider, to know what attributes are significant in determining regional identity. Is it colour, form, size, technique or a combination of these attributes? Brady and Bradley (2014) examined in relation to rock art in the Gulf of Carpentaria and found that ethnographic data provided vastly different interpretations to formal archaeological analysis. Brady and Bradley (2014) found that while rock art style can identify regional patterns that reflect social organization and interaction, the relationship of rock art to social networks are best understood through the application ethnographic information. They recommend the movement from big data to fine grained analyses of rock art within Indigenous frameworks are needed (see also Sanz et al. 2009; Winn 2016).

4.2 Information Exchange in north Queensland rock art

Australia has a deep occupation history and evidence of rock art has been located across much of this time frame. Rock art research has attempted to produce chronologies of style that could help understand patterns in occupation of Australia. Perhaps the most influential is Maynard's (1976) model that engraved tracks and abstract designs, found across the continent, represent a homogenous 'Panaramittee' style that was replaced by more complex figurative styles over time.

As rock art dating techniques improved and rock art researchers increasingly turned to statistical analysis to investigate large datasets, it became increasingly clear that Maynard's thesis - that Panaramittee style reflects an old homogenous cultural identity - was too simplistic. Panaramittee engravings were not confined to the Pleistocene (Cole 2010; Watchman and Cole 1993), nor were they homogenous across space (Franklin 2007). In Laura, wet pigment on rock shelter walls provides evidence for some of the earliest rock art of the region, while abstract engravings and cupules are part of both old and recent rock art traditions (Cole 2010; Watchman and Cole 1993), although the methods used to obtain these dates have received criticism (David et al. 2013). A detailed analysis of Panaramittee engravings from five regions (Central Australia, Central Western Queensland, Cape York Peninsula, Tasmania and Carpentaria) undertaken by Franklin (2007) identified discrete patterns between the five regions led her to conclude that rock art style is linked to discontinuous dreaming networks rather than being representative of a homogenous cultural group. Although Maynard's model, that Panaramittee represented a Pleistocene rock art style that morphed from Simple Figurative to Complex Figurative over time, was overly simplified, it significantly contributed to rock art research by demonstrating the use of rock art studies to understanding chronological change in Aboriginal Australia.

In a further step away from ethnographic interpretations of rock art, Morwood developed a methodology integrating palaeoenvironmental reconstructions and archaeological excavations into rock art research. Morwood sought to find signatures of art production in archaeological contexts that could help develop a chronology which could then be linked to environmental and cultural change (Morwood 1990). Morwood (2002) applied his methodology in the North Qld Highlands (at Mickey Springs and Porcupine Gorge), and expanded his work significantly in southeast Cape York Peninsula (Morwood and Hobbs 1995). Morwood purposely did not rely heavily on ethnographic evidence, arguing that descriptive studies are not enough - rock art research should examine and explain the relationship of art to archaeological changes, particularly in relation to the nature of social interaction (Morwood 1987).

The intensified use of resources during the mid to Late Holocene, and the population expansion that accompanied it, was concurrent with development of increasingly regionalised rock art style

in northern Australia. Rising sea levels, increased populations and more intense interactions are thought to have led to major changes in the rock art record. This has been demonstrated across northern Australia. Examples of this mid to Late Holocene change include the development of major regional rock art style provinces such as the highly stylized 'Quinkan' paintings at Laura, 'X-ray' style at Arnhem Land and changes from tracks and geometric motifs to a wider variety of pecked motifs in the Central Queensland Highlands (Lourandos and Ross 1994; Morwood 1990, see also Mulvaney 2013; Ross 2012). Regionally stylised rock art bodies visible in major style provinces today reflect the regional social networks that developed in response to intensified use of resources in mid-Late Holocene Australia.

The relationship of rock art and environment is based on Gamble's (1982) proposal that differences in style reflect 'open' or 'closed' social networks (Smith 2002). Gamble proposed that stylistically similar Paleolithic female figurines found across Europe represented open networks of interaction in specialised environments. This was expanded by Smith (1992) who proposed that resource rich areas that supported larger populations with smaller territories enabled 'closed' social groups to develop, while, in contrast, people in arid areas, where larger networks of communication and exchange were required to share precious resources such as water, people used rock art to reflect their 'open' social networks. As a result, highly stylised regions of figurative rock art developed in resource rich areas such as Arnhem Land and southeast Cape York Peninsula while arid areas such as the central Australia used more homogenous rock art style such as geometric and abstract designs over larger areas with less discrete boundaries.

In north Queensland, three major style provinces have been identified by comparing subject analyses of rock art across environmental zones. The Laura sandstone rock art province, one of Australia's significant bodies of Aboriginal rock art, is comprised of a network of highly stylised figurative art precincts including Koolburra Plateau, Princess Charlotte Bay, and the Laura and Normanby Rivers that occupy rich environmental niches (Cole 2016). South of the Laura area, across the Mitchell-Palmer watershed, non-figurative and more homogeneous rock art styles are thought to demonstrate the use of shared symbolism reflecting the need to share scarce environmental resources (David and Chant 1995; David and Lourandos 1998). 'Open' and 'closed' networks of social behaviour are used to explain the highly diverse figurative styles in southeast CYP compared with the geometric, abstract and non-figurative art found in the arid interior.

At Laura, north of the Mitchell/Palmer Rivers, a high degree of inter-regional style was thought to reflect the 'closed' social networks of the resource-rich environments of southeast CYP, while south of the Mitchell River watershed a heterogeneous rock art style was thought to be result of the 'open' social networks resulting from resource-poor arid inland environment. These

networks are associated with an increase in ochre, charcoal and stone tools in the archaeological record around 2-3000 years ago, placing them firmly within the mid-Late Holocene timeframe (David and Chant 1995). The Einasleigh Uplands in the north Queensland savannah, features a third major open style province, dominated by stencil art with links to the Queensland Central Highlands rock art over 1,000 kilometres south (Morwood 1990, 2002). While research on rock art style in the 1990s concentrated on identifying major provinces, more recently Taçon (2013) has identified the value of investigating the junctions, or gateways, between these major style provinces.

Interpreting social identity through rock art assemblages can be investigated through on Information Exchange, the theory that social difference social difference is communicated through style (Conkey 1990). Underpinning studies of visual culture is structuralism, the philosophy that technique and symbolism are cultural choices, influenced by social norms and availability of resources and technology. Structuralist approaches to visual culture as an archaeological resource considers rock art a 'language', which, to some extent, is decipherable independent of ethnography (Conkey 1990, Morwood 2002). The Information Exchange theory described by Wobst (1977, 1999) and extended by Sackett (1977, 1982, 1985, 1990) and Weissner (1984, 2008) is a structuralist approach to understanding style as a function of society. Style can be isochrestic, (passive manifestations of available material) or iconological (consciously chosen for its ability to communicate social relationships) (McDonald 1999; Smith 2010; Sackett 1982). Examples of isochrestic style in the rainforests of north Queensland are the unusual slate tools known as *morahs* and *ooyurkas*, found in a limited distribution within the rainforest, probably close to the slate source material (Cosgrove 1987). Shield designs, on the other hand are iconological, the shape of the shield and the designs chosen to decorate them communicate social identity (Abernethy 1984; Hale 1989; McConnel 1935). Isochrestic and iconological style are both underpinned by the tenet that individuals are influenced by external rather than internal choice in the creation of artistic expression and material culture.

Critics of the Information Exchange theory question whether information contained in rock art can be 'read' by outsiders such as archaeologists. Classifying attributes is a taxonomic construct, an inherently subjective process and as 'outsiders' we can never know which attributes were significant to the culture in which they were created, and therefore which attributes to measure (Bednarik 2007). However, Information Exchange does not attempt to decipher meaning or significance, but simply identifies attributes that reflect communication within and outside the social systems in which they are created. The assumption is that attributes reflect social rules to which artists are bound and therefore reflect social identity.

The application of Information Exchange to rock art assemblages sometimes reveals results that do not quite fit the model. In southeast New South Wales, Officer (1992) found multiple boundaries of rock art style, which varied according to the attributes chosen, and the scale analysed. He found the regional rock art assemblage reflected complex patterns of social relationships, cultural affiliations and ceremonial networks that did not necessarily coincide. McDonald and Harper (2016) applied Information Exchange to rock art depictions of shield designs in open and closed social networks. They compared engraved shield designs in the Sydney-Hawkesbury environment to engravings of shield designs in the Pilbara. McDonald and Harper (2016) concluded, contrary to what they expected, that engravings in fertile Sydney-Hawkesbury had more heterogeneous shield designs than the arid Pilbara. Uncovering the chronology and distribution of stylistic patterns in rock art remains a complex yet informative process.

Rock art of the Wet Tropics presents an excellent opportunity to explore the relationship of social networks and style in terms of Information Exchange. As demonstrated in the previous chapter, rock art of the Wet Tropics is likely to be recent, probably at the most 500 years old and probably much more recent (Cosgrove et al. 2007; Gunn and Thorn 1993). Thus, the Wet Tropics was settled at a time highly regionalized social interaction in north Queensland, demonstrated by well-defined rock art style provinces in surrounding areas. In the Wet Tropics, there is a high density of diverse language groups in a relatively small geographic area, and rainforest Aboriginal people used visual expression in shield designs and other aspects of material culture to demonstrate inter-regional social identity. Following the Information Exchange theory, the rock art and dendroglyph motifs are expected to demonstrate a high degree of heterogeneity between different groups.

4.3 Cultural landscapes

Cultural landscapes permeate Aboriginal understanding of 'country' and relationship to place. My definition follows Anschuetz (et al. 2001:158) who describe cultural landscapes as the 'fundamental nature of the relationship(s) between people and the spaces they occupy'. As described Anschuetz (et al. 2001), there are three key components to cultural landscapes theory that are relevant to rock art research in Australia. Firstly, cultural landscapes are inherently about the relationship between people and place. Secondly, cultural landscapes are dynamic, that is they can change through time, and also can mean different things to different people. Finally, cultural landscapes provide a framework for incorporating different perspectives, particularly Indigenous perspectives. Cultural landscapes provide rock art researchers with an archaeological framework that accounts for the historical, political and ethnographic context. Thus, cultural landscapes incorporate 'the physical environment, cosmology, cultural practices, political processes, social

and spatial organisation, history and memory' that are so important in understanding Aboriginal heritage (Strang 2010:52).

Interpreting the intersection of geography, history and anthropology in the context of rock art research has taken a variety of approaches including ethnographic (Arsenault 2004; Brady and Bradley 2014; Sanz et al. 2016), informed (David 2004), ethno-historical (Blundell and Woolagoodja 2005; Lewis-Williams 2002), cosmological (McNiven and Brady 2005) and phenomenological (Tilley 1991). Examples of the application of cultural landscapes in rock art interpretation include the *Wandjina* images in the Kimberley that demonstrate links to language and clan estates (Blundell and Woolagoodja 2012; see also Layton 1992; Morphy 1989 for links between rock art and clans or moieties). In an investigation of three art sites at Injalak Hill, western Arnhem Land, Sanz (2011) demonstrated the use of form, colour, animation and placement to communicate categories of language, clan group, moiety and gender. Lewis-Williams (et al. 1982: 438), who argues that without context the language of rock art is meaningless, used historical and ethnographic evidence to demonstrate San rock art was 'part of a symbolic and ideological practise which dealt with the reproduction of world order and the social processes of production'. In the Torres Strait, Brady and Crouch (2010:418) describe land and seascapes of the Torres Strait Islanders as engagement between people, Ancestors, weather events, hunting activities, rock art and material culture. If rock art is a language, motifs provide the lexicon while cultural landscape forms the 'grammar'.

Combining ethnography and rock art studies can reveal the extent to which rock art is embedded into the cultural landscape in Aboriginal Australia. In a study by Brady and Bradley (2014) in southwest Gulf of Carpentaria one red and white abstract motif was identified by Yanyuwa men as a powerful ceremonial design with specific association with one totemic ancestor and the Wuyaliya clan group. The motif is found across Yanyuwa country, rather than being restricted to the Wuyaliya clan estate and its distribution across the landscape signifies cultural meaning that 'can only be understood through a detailed reckoning of the social and ritual history of the Yanyuwa people' (Brady and Bradley 2014:16). For Yanyuwa the association between rock art and cultural cosmology goes beyond an interpretation of motifs. Brady and Bradley (2014) explain that the preservation of motifs can reflect the health of the country. For example, a faded painting that hasn't been 'touched up' recently can signify loss of the physical and spiritual association between people and country.

Totems are highly significant In Cape York Peninsula. Sutton (2016:99) described the importance of totemic affiliations for clans in Princess Charlotte Bay, where he noted, 'there simply were not enough clans affiliated to each language to provide anything like a one-language/one people

social and economic universe'. Totemic affiliations linked clan groups across the western and central Islands of the Torres Straits (Brady 2010:401), for example the dugong 'clan' design depicted in Ngiangu, Kirriri and Pulu rock art represents a social affiliation that is different to language or home island and possibly linked individuals across clan estates and language groups in the same way that moiety affiliations do at Burunga.

4.4 Applying rock art research techniques to dendroglyphs

Dendroglyphs share similarities with rock art that make them suitable for interpretation through rock art methodologies. Both rock art and dendroglyphs are one of the few forms of visual culture that are permanently tied to place. Neither rock art nor dendroglyphs are by-products of resource use, that is they were not produced as the result of tool manufacture or food collection, but a rather a product of a conscious decision by a person to leave a visual record. As visual expressions, both dendroglyph and rock art motifs are windows into past societies, they are images consciously created by individuals, and produced within specific social norms. Despite the similarities between rock art and dendroglyphs, few dendroglyph studies have applied rock art research methodologies to interpret meaning and significance. Records of dendroglyphs tend to focus on ethnographic interpretations (e.g. Blackstock 2001; McCarthy 1940; Richards 2007), preservation (Barber et al. 2014, Andersson et al. 2005), descriptions (Etheridge 1918; Black 1941; Jefferson 1955) or contemporary relevance (Van Torn 2014). Like rock art, visual expressions on dendroglyphs have also been found on material culture. In New South Wales, Etheridge (1918) recognised a relationship between tree designs and decorations on shields, boomerangs and spears (see also Bell 1982) while in New Zealand Barber (2012) also found a relationship between body decoration, material culture and carved trees in the Polynesian Chatham Islands where *rehoku* (carvings on trees) continue to be important to Moriori identity and well-being today.

Descriptions of dendroglyphs have tended to focus on ethnographic interpretations. A significant common thread to ethnographic studies of dendroglyphs that is that motifs can have multiple meanings. In the northwest United States dendroglyph motifs could be interpreted by different Gitksan individuals as memorials, commemorative markers, territorial boundary signs, hunting talisman or simply something to do at camp (Blackstock 2001). One individual had three interpretations for a single carving; it marked ownership of a trapline, identified a family meeting place and acknowledged the death of a lynx (Blackstock 2001:115-120). In the woodlands of the northeast United States, people both painted and carved trees to show directions of trails and campsites, commemorate heroic deeds, record hunting trips and mark territory (Coy 2009). Although none of the painted trees survive, historical documents describe how colour and motifs could encode information about the number of healthy and sick people in a group, their linguistic

affiliation, what animals they caught hunting, and whether they had left the camp (Coy 2009). In the Chatham Islands of New Zealand Moriori called their dendroglyphs *manu*, a word that could also mean 'bird' or 'distinguished person' (Richards 2007:37). Different levels of encoded information is also seen in rock art, as individual motifs can have different interpretations depending on the level of knowledge the informant holds or wishes to impart.

Classifications of dendroglyph style are not common. There are some examples, notably from New South Wales where Etheridge (1918) and Black (1941) made distinctions between 'burial' and 'bora' tree carvings and also noted that the ceremonial, figurative motifs were more common in northern New South Wales and southeast Queensland while deeper incisions of non-figurative designs were usually found in southern and central New South Wales (see also Bell 1982). One study on the Chatham Islands compared style from three regions on the island and concluded there was enough differences that these were distinct regions, possibly the work of three individual artists (Simmons 1980). Perhaps one of the reasons rock art methodologies are not applied to dendroglyphs is the difference in sample size. Dendroglyphs tend to be in relatively small numbers, typically between one and three carvings per tree, while rock art motifs can be clustered in the thousands. The lack of density of dendroglyph motifs makes statistical comparisons difficult.

4.5 Community-based archaeology

A quiet revolution in rock art studies has taken place in Australia as Indigenous worldviews increasingly permeate archaeological research. In a post-native title landscape, Aboriginal custodians are increasingly recognised as research partners with a role in developing aims, objectives and methodologies and controlling how results are communicated. In Australia, this has resulted in increasing incorporation of Indigenous research aspirations and ethnography into rock art research (e.g. compare Cole 1998 with Cole and Musgrave 2006; David and Lourandos 1998 with David 2002; Layton 1992 with Layton 2012; McDonald 1994 with McDonald and Veth 2013) and the rise of a new generation of rock art researchers working with Indigenous people as contributing research partners (e.g. Brady and Bradley 2014; Doring and Nyawarra 2014; Lahelma 2007; May et al. 2005; Porr and Bell 2011; Ross and Davidson 2006).

Shifting ideologies, legal statutes and ethical debates increasingly influence the way researchers develop research proposals, conduct archaeological research and interpret results (Smith and Wobst 2005; Conkey 2012). The integration of Indigenous voices in Australian archaeology reflects an ongoing debate around the role of Indigenous perspectives in archaeological research (Smith and Wobst 2005). It is entwined with land rights legislation, which started in the Northern Territory in 1976 and was enshrined in federal legislation through the (C'wlth) *Native Title Act*

1992. The post-native title landscape makes it not only an ethical, but a legal requirement to 'establish an ongoing conversation' with Traditional Owners about research aims, methodology and management of information resulting from research on Aboriginal cultural heritage.

Community-based archaeology projects are controlled by the community, based on aims identified by the community and often developed with researchers who have built relationships of trust and mutual reciprocity over time (e.g. Cole et al. 2002; Greer 1996; Greer 2014; Greer and Fuary 2008; Marshall 2002). Community-based archaeology recognises that there can be multiple interpretations of the past, and that these may not always align. This is an alternative and un-elitist framework for understanding archaeology, which is significant, and aligns with the movement of legislation in Queensland towards placing greater recognition of the role of Aboriginal parties and less of archaeologists. In this political climate, it is essential that archaeologists demonstrate their value not just in the scientific or academic spheres but also to Aboriginal communities. The community-based approach delivers greater social outcomes and contributes to the de-colonisation of archaeology (Smith and Jackson 2008) but also requires a great deal of flexibility. Archaeologists may be required to relinquish control in community driven projects, methodologies may not follow the usual processes and should be adapted for individual projects. The ability for communities, or indeed personalities, to control results and how they are disseminated means results may have to fit the aspirations of each community, and therefore not be completely impartial.

There are many applications of the community-based approach. Brady and Crouch (2010) make a distinction between 'community archaeology', where control of project aims and methodologies are relinquished to participating communities, and 'partnership archaeology', where an archaeologist is invited by a community to apply their specific technical skills. Another category is 'consent based' archaeology (Greer et al. 2002), where a project is conceived independently of the community and consent sought based on a pre-defined methodology. Brady (2010) lists four types of community-based archaeological research processes: research by invitation, enquiry or consultancy and training and cultural heritage management. There are opportunities and constraints for each of these approaches.

The methodology used in this thesis was to approach Aboriginal parties with known rock art or dendroglyphs with a proposal of what I wanted to achieve and to ask how mutually beneficial projects might be developed around my aim of rock art and dendroglyph recording. This discussion would typically be held over a number of meetings, with a Board or their representative. Aboriginal custodians in the Wet Tropics have a diverse range of interests, issues and aspirations for cultural heritage management. While the overarching aim of this project was

to compare rock art and dendroglyph style in the Wet Tropics, individual projects were developed with each Aboriginal party, taking into account the aspirations and resources of each group. Projects developed by Aboriginal custodians were in addition to my key topic, although some of these, such as documenting community knowledge of sites and their cultural significance, significantly enhanced my overall research. Plain English reports detailing the results of site inspections were provided to each relevant Aboriginal community. Reports were adapted to the needs of individual Aboriginal parties but tended to include a history of site management and collated reports or publications relating to the site, a catalogue of motifs, analysis undertaken and site plans. Key findings were presented at stakeholder meetings, which provided an opportunity to discuss how the research could contribute to the overarching aspirations of Aboriginal custodians of the Wet Tropics as well as outcomes for individual Aboriginal parties. The consultation process aimed at building respectful, reciprocal and lasting professional relationships.

Individual projects included locating sites, ranger training, formal catalogues of motifs, assessments of potential development impacts (such as mining) and collating historical information. In some instances, these existed side-by-side with my project, essentially two individual projects, with different but aligned, aims and could be conducted at the same time. For example, the work with the Mamu people started not long after native title had been determined over the Mamu estate and the group were seeking opportunities to work on country. My research provided a (modest) source of funding to fund Mamu Traditional Owners to identify and open walking tracks to dendroglyph and rock art sites. While my aim was to revisit and record the motifs, for Mamu it was an opportunity for Elders to engage younger generations in projects on-country, and to assert their ownership of country with departments such as Queensland Parks and Wildlife and the Wet Tropics Management Authority. Other fieldwork 'piggybacked' on existing projects; the James Cook University Rock Art Field School, held at Mount Claro in 2013 and 2015, was an opportunity to re-record the sites as part of a teaching exercise with undergraduate students and Indigenous rangers. Tailoring the research design, implementation and dissemination of information with each Aboriginal party was key to the successful collaboration with Aboriginal parties.

The community-based methodology had its limitations. In some cases, despite numerous meetings and support from the relevant individuals, no mutually beneficial projects could be developed due to governance (i.e. changes of leadership) or other internal community issues, such as availability of the relevant Elders to participate due to illness. In these situations, the timing of my research simply did not align with the capacity of the community to contribute in any meaningful manner. Two communities simply saw no benefit in developing research

partnerships and declined my request to develop research projects. One other limitation was ongoing conflicts between two or more of the Aboriginal parties, which meant entering into a partnership with one group limited my ability to develop a partnership with the group with which they were in conflict. A significant factor was that the amount of time required to build trust and respect between researcher and community is not conducive to time limits imposed by university funding requirements, annual grants or doctoral research.

4.6 Ethics and protocols

James Cook University Ethics Committee provided Ethics approval for the research (H5281 and H2582). Ethics approval required six core values to be applied to the conception, design and the conduct of research: reciprocity, respect, equality, responsibility, survival and protection, spirit and integrity (*Values and Ethics in Aboriginal and Torres Strait Islander Health Research 2003*). Five core values guide the research design:

- Aboriginal people are the owners and primary stakeholders of Aboriginal cultural heritage and Intellectual Property Rights.
- Aboriginal parties have diverse aspirations, histories and resources and therefore projects need to be tailored to meet individual group requirements.
- Informed consent from appropriate Aboriginal parties is required prior to commencement of any research.
- Informed consent includes agreement on how information is to be managed and disseminated.
- Projects should be mutually beneficial to researcher and Aboriginal party.

Consultation and negotiation with Aboriginal parties (Aboriginal parties have a specific definition in Queensland legislation, see below) adhered to requirements of the (Queensland) *Aboriginal Cultural Heritage Act 2003* (see below) and university ethical requirements but more importantly, protocols established by rainforest Aboriginal people themselves. Rainforest Aboriginal people have established key principles and protocols they expect researchers to adhere to, based on respect, reciprocity and mutually beneficial research outcomes (Fuery 2009; Nursery-Bray 2006; Martin 2008). Consultation was based on building sincere and respectful relationships that extended beyond the gathering of archaeological data. Key principles and protocols for working alongside Aboriginal rainforest people are outlined in Fuery (2009) (Table 4.1) and include obtaining informed consent and a clear approval to proceed prior to commencement. There is emphasis on engaging the correct people to 'speak for country', respect for Intellectual Property Rights and ensuring benefits arising from the project apply to both the Aboriginal custodians and

the researcher. Key protocols and principles guided the process for engagement with Aboriginal custodians and were achieved through ongoing communication with the relevant Aboriginal party.

Table 4.1 Key principles and protocols for engaging with rainforest Aboriginal people (adapted from Fuary 2009).

| Key principles and protocols | Achieved by |
|--|--|
| Clear agreement to proceed | Relevant Board provides authorization to proceed |
| Informed consent | Project aims and implications discussed in detail with Board and/or other relevant individuals |
| Ensure right people to speak for country are engaged | Relevant custodians identified by community Board |
| Mutual respect and responsibilities by researcher and Aboriginal custodian | In the initial stages of project agreement made on expectations of researcher and custodians |
| Ongoing process of engagement | Continued communication through all stages of project including research design, fieldwork, communicating results. |
| Respect for intellectual Property Rights | Agreement on which information is incorporated into the thesis, specific approval for publications |
| Benefit sharing | Incorporate aspirations of individual custodians |

Rainforest Aboriginal people have consistently voiced a requirement for researchers to ‘work alongside’ Aboriginal custodians to produce culturally relevant outputs and this was a significant component of my research. A high level of consultation with several Aboriginal groups was undertaken from the beginning of the research to the end, and in some cases, has led to ongoing collaborative projects. Aboriginal custodians were active research partners who contributed to research aims, site selection and provided valuable interpretations of the meaning of individual motifs and their context in the cultural landscape.

The (Qld) *Aboriginal Cultural Heritage Act 2003* (the ACHA) specifies a process for identifying relevant Aboriginal custodians for a site or area, the ‘Aboriginal party’. The process established under the ACHA was used to identify relevant people for consultation. The ACHA identifies relevant Aboriginal parties hierarchically as:

1. The native title holder.
2. A Cultural Heritage Body.
3. The registered native title party.
4. Failed registered native title claimants, if no subsequent claim has been made.
5. An individual with cultural affiliation to the place.

In Queensland, Aboriginal custodianship of heritage is linked to native title. This poses an interesting situation for long-term cultural heritage research as the process for identifying Aboriginal parties is essentially influenced by ongoing political dynamics as native title claims are lodged and Cultural Heritage Bodies are established. For example, during my research two native title claims were lodged that effectively changed the Aboriginal party under the ACHA, the full implications of which are discussed in Chapter 7.

Following the process for identifying the Aboriginal party under the ACHA, where a native title body existed (number 1 on list above), consultation went through the Prescribed Body Corporate (PBC). Prescribed Body Corporates are established through the native title determination process and overseen by a Board of representative Traditional custodians. In all instances, the PBC Board nominated relevant senior representatives as research collaborators. Where native title had not been determined, consultation was with the Cultural Heritage Body or registered native title claimants (numbers 2 and 3 on list above). There were no field sites with failed registered native title claims (number 4 on list above) but there were several areas where no native title registered claims or Cultural Heritage Bodies existed (number 5 in list above). The ACHA does not provide much guidance in these situations. Where native title determinations or registered claims are not in place the Aboriginal party is defined under section 35 of the ACHA as ‘the person recognised in accordance with tradition/custom as being responsible for an area and an Aboriginal person/family/clan group with particular knowledge about traditions, observances, customs or beliefs associated with the area’. In these situations, broad consultation was undertaken with senior Aboriginal custodians, relevant Aboriginal Corporations and cultural heritage professionals working in the local area to identify the relevant Aboriginal party.

Consultation was conducted in three stages in tandem with academic stages, as illustrated in Figure 4.1. Consultation prior to field work involved:

- Contact via phone or email to contact point (e.g. Chief Executive, Administrative Officer, senior representative).
- Face to face meeting to introduce myself and the research.
- Research proposal presented to the Board or relevant Elders to start a conversation about mutually beneficial outcomes.
- Clear agreement to proceed from the Board (or not).
- Appropriate community contact(s) identified.
- Establishing a process for field work and reporting.

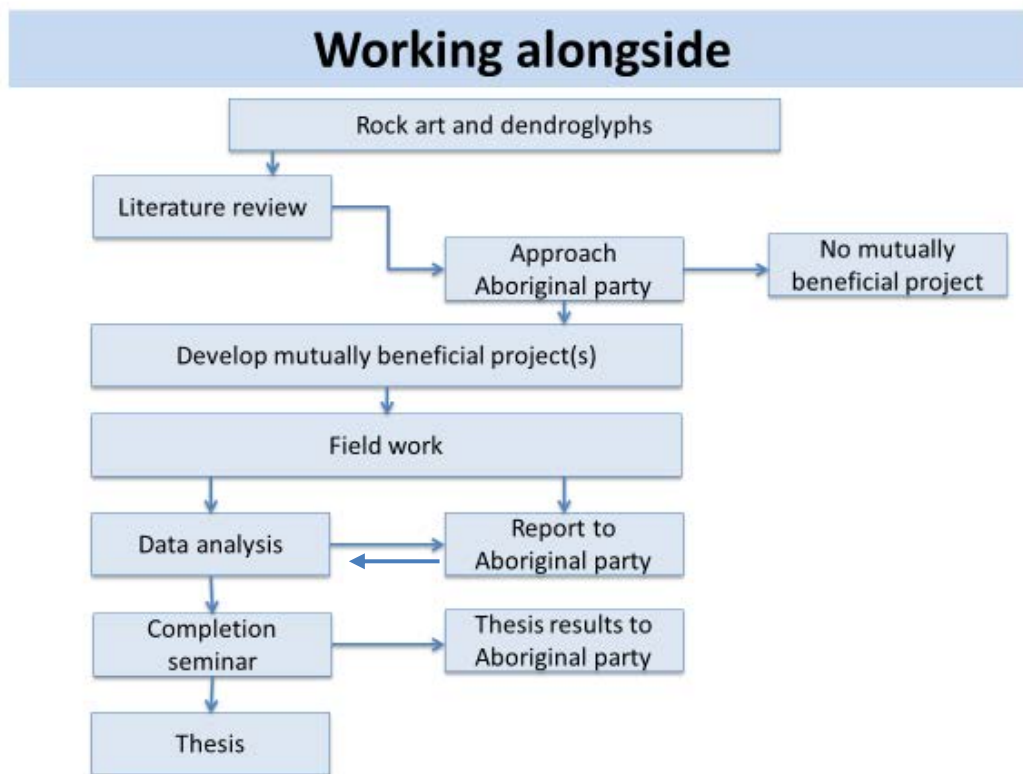


Figure 4.1 Flowchart showing stages in the consultation process.

Aboriginal parties were involved in each field inspection. Appropriate times and dates were chosen to suit both myself and the Aboriginal party. In some instances, cultural protocols dictated our field hours. At Mount Claro, Janine Gertz (pers comm. June 2013), representing Gugu Badhun, explained that it was not appropriate to work past 3pm, out of respect for the country and the Old People who reside in it. The presence of the Old People in the landscape was a common theme during fieldwork, as was the presence of other, less benevolent spirits, and the need to respect them by not placing undue pressure on the environment.

4.7 The Aboriginal parties

Twelve Aboriginal parties were approached for this study. In most cases, consultation commenced with an offer to start a conversation about opportunities to develop mutually beneficial projects in relation to the study of rock art and dendroglyphs within their estates. Nine Aboriginal parties chose to participate, while three did not. The level of involvement varied significantly between each Aboriginal party, dependent on their available resources and current aspirations.

There simply was not time to develop collaborative projects with each of the 20 Aboriginal parties in the Wet Tropics, so Aboriginal parties with higher numbers of known sites on their estate were targeted over areas with smaller numbers of known sites. Pre-existing professional relationships between the researcher and an Aboriginal party also influenced the choice of sites. For example, even though only a small number of sites exist on the Cairns coast, these were included because a good working relationship already existed between the researcher and the Aboriginal party for the area, Yirrganydji Aboriginal Corporation. Only two of the thirteen Aboriginal parties approached saw no benefit to the research and declined to be involved (Table 4.2). One group, Gunngandji, were supportive but did not have the capacity to develop any mutually beneficial projects, in addition to this, the person seen as having the senior role in cultural heritage matters was ill and not in a position to engage with the research.

Aboriginal parties contributed to the identification of site locations and attended all fieldwork, with two exceptions. The Melody Rocks sites were recorded at the request of the South Endeavour Trust in response to a mineral development lease. A Bulgan Warra representative participated in the site recording and the community provided permission to include this in my thesis after the recording took place. The Mount Claro sites were recorded as part of the James Cook University Field School and permission was given by the Corporation to include the results in my thesis after recording was completed. At the completion of each recording, the relevant Aboriginal party was provided with a plain English report for their records. These reports contain detailed information on site locations, cultural knowledge and other information which may not be included in this thesis, although they did not include analysis of rock art or dendroglyph motifs. A full list of reports is available in the reference list, and access may be viewed with permission from the relevant Aboriginal party.

Financial payment is one obvious outcome for the Aboriginal parties and funding was sought from external bodies with the specific aim of being able to pay Traditional Owners for their time. For some individuals, this was an important driver in their participation. Other individuals, always Elders, chose to not be paid themselves, but for payment to go to the younger generation. Payment was sometime withheld, on request of Elders, until the younger people demonstrated their interest and enthusiasm to participate in fieldwork. The availability of extra funding sources within the WHA meant that some groups could be paid for fieldwork in the WHA, but not outside it. Overall, the ability to pay people for their time had little influence on the participation of the Aboriginal parties, and many individuals contributed to this work without being paid, or being paid less than they deserved so that maximum outcomes could be generated from minimal funds.

Table 4.2 Outcomes of consultation.

| Relevant Aboriginal party | Outcome of consultation |
|--|--|
| Bulgan Warra | Supportive |
| Yirrganydji Aboriginal Corporation | Supportive |
| Bulwai | Supportive |
| Frank Royee on behalf of Malanbarra Yidinji Aboriginal Corporation | Supportive |
| Mamu Aboriginal Corporation | Supportive |
| Wabubadda Aboriginal Corporation | Supportive, but asked for delay in use of rock art results until native title issues resolved |
| Gugu Badhun Aboriginal Corporation | Supportive but no capacity to develop projects. Approved use of data gathered during JCU Rock Art Field School |
| Gunggandji Aboriginal Corporation | Supportive but no capacity to develop projects. Relevant senior figure ill and not able to participate |
| Djunbunji Aboriginal Corporation | Declined – could see no benefit |
| Jabalbinna Aboriginal Corporation | Declined – wanted to work with people they know and trust |
| Western Yalanji Aboriginal Corporation | Supportive although internal issues put this project on hold for 12 months |
| Gimuy Yidinji | Supportive |
| Djabugay Tribal Aboriginal Corporation (DTAC) | Supportive but dispute between Bulwai and DTAC made it impossible to work with both groups |

4.8 Site & motif recording

An initial desktop study of published and grey literature was conducted to identify potential rock art and dendroglyph sites in and around the Wet Tropics. Approximate locations were mapped and compared to the boundaries of Aboriginal parties to determine the relevant custodians for consultation. Influential factors in choosing sites were:

- Support from relevant custodians.
- Relevance to answering the research questions.
- Physical access.

Rock art and dendroglyph sites in Wet Tropics can be remote and extremely difficult to access. In the Wet Tropics, one could easily spend three to five days walking through dense rainforest

attempting to locate a single site with only a few poorly preserved motifs. Owing to practicalities including time restrictions and safety considerations sites with only a small number of motifs and poor locational information were not targeted. There were, however, exceptions. The Mount Windsor dendroglyph was considered particularly important in this study because of its location between the Wet Tropics and Cape York Peninsula, and its reported similarities with the Quinkan style rock art. In addition, only one person could guide me to the site, and that person was in his seventies. If this site was not revisited for this research, it is unlikely it would have ever been relocated and recorded in detail.

The limited extent of exposed geological substrate in the study area means that there are few areas of high potential for 'new' unrecorded sites. One exception of the granite slopes of the Lamb Range, particularly around Davies Creek and Tinaroo Dam. However, Aboriginal custodians at Davies Creek on the western slopes of the Lamb Range regularly search the area for new sites but have not located any previously unrecorded sites. Although there is the potential that these areas could be targeted for future surveys, it is unlikely that many 'new' sites would be found through field surveys, and these field surveys would require a high amount of resources to ensure safety of the field team in the remote and difficult terrain.

Access to the dendroglyph sites was extremely challenging. For example, five hours were spent following a 1969 compass and tape map 320m from the road into the Upper Charappa site. The team of seven participants spent a second day relocating seven trees within a 50 square metre patch of forest. Access to the Mount Windsor Tableland dendroglyph required a three-day walk traversing disused logging tracks. When these sites were found by Forestry and visited by Grimwade in 1989 access was via logging tracks, however many of the logging tracks have been closed for twenty-five years and are overgrown with pioneer species, wait-a-while and other vegetation.

Site recording was completed between 2013 and 2015. Aboriginal custodians accompanied the researcher on all fieldwork. The fieldwork timetable was *ad hoc* depending on the consultation process, the availability of appropriate custodians and the weather. Consultation with Aboriginal parties was completed at various stages, some groups provided clear agreement to proceed early in the project while others required several months of conversations before fieldwork was organised. Most fieldwork was conducted in the drier months between April and November. The following records were produced for each site

- Site records including dimensions, location, environment, preservation issues and cultural knowledge.
- A *pro forma* for each site and individual motif (Appendix A1 and A2).

- Photographic record of the site, art panels and individual motifs.

Although many of the rock art sites had been recorded previously, it was necessary to revisit and rerecord each of them to produce reliable and comparable data.

Rock art recording

Rock art sites were recorded using two *pro forma*, each comprising a double sided A4 sheet, developed specifically for this project. One sheet was completed for the site, and one sheet for each rock art motif. The site *pro forma* included environmental and cultural information, a brief description of management issues and contact details for Aboriginal custodians (Table 4.2). Site plans were produced if they did not already exist. They were made to show the scale of the art site and the location of art panels within the site. Panels of rock art were allocated a panel letter (e.g. A, B, C) and mapped on site plans. Panels were sketched showing the relative location of each motif and individual motifs were sketched separately.

Table 4.2 Information included in rock art site and motif *pro forma*.

| SITE | MOTIF |
|------------------------------|-----------------|
| Location | Description |
| Access | Technique |
| TO information | Scale |
| Existing information on site | Colour |
| Environment | Placement |
| Description | Infill |
| Cultural information | Superimposition |
| Preservation | TO comments |
| Management | Preservation |

Digital photographs of each motif, clusters of motifs and landscape setting were taken systematically from the left to right using a Nikon PEN E-3 mirrorless digital camera. Photographs of individual motifs were taken, as far as possible, at right angles to the image and 30-50cms distance.

Digital enhancement of rock art imagery has become standard in rock art recording (Brady 2007). The development and accessibility of software packages such as DStretch and Photoshop provide exciting opportunities for analyzing motifs, sometimes revealing images or parts of images not visible to the naked eye. DStretch was used to enhance individual motif images. This procedure, also known as decorrelation stretch, works by applying algorithms to specific colours, essentially

rotating the colour space to enhance certain hues while de-saturating others (Mark and Billo 2006).

Dendroglyph recording

Dendroglyph recordings took the form of notes and sketches. They included information on individual motifs and trees. Each tree and motif were given an individual identifier; trees were numerical (1-27) and motifs were alphabetical ('a' for the first motif on a single tree, 'b' for the second motifs on the same tree and so on).

Site recording included location, access, environment, tree type, measurements (diameter of the tree at breast height), tree and environment health and information provided by Aboriginal representatives (Table 4.3). Individual motifs were described and sketched, specific information included height of the motif above ground (base of motif and top of motif, dimensions, depth of carving, preservation issues affecting the motif and any information provided by the Aboriginal representative.

Table 4.3 Information included in dendroglyph recording *pro forma*

| SITE | MOTIF |
|-----------------------------------|---------------------------|
| Location | Description |
| Access | Dimensions |
| TO information | Height above ground level |
| Existing information on site | Depth of carving |
| Environment | Health of carving |
| Description | Sketch of motif |
| Cultural information | TO comments |
| Preservation | Preservation |
| Management | |
| Diameter of tree at breast height | |

Individual motifs were photographed with scale bar where possible. In some cases, adaptations for the recording process were required, owing to difficulties in access and lack of measuring equipment. For example, the Mount Windsor dendroglyph, which takes two days of strenuous bushwalking through remote terrain, is five metres above ground level. For this site, recording equipment needed to be lightweight and easy to carry. A pole extension was used to raise the camera for photographs but a scale bar was not possible. Neither was it possible to reach the carving with measuring tape for accurate measurements. In this situation a long straight branch,

with flagging tape fixed at one metre intervals, was raised next to the tree to give an approximate height of the carving.

Motif classification

Both rock art and dendroglyphs were categorised into levels, adapted from Brady (2010). Only identifiable motifs were included (that is, background colour or smudges of colour, were not categorised). The relatively small number of motif types meant that only four levels of classification were needed.

Labelling a motif does not presume that the images actually represent the label they have been given. Rather, labels are ascribed to motifs based on how they appear, as a practical way to compare motif types across different sites. There are some instances where an image has clear resemblance to an object, for example a macropod, but without information from the artist it is impossible to know whether a macropod is intended to represent an animal, a person in the shape of animal or an event that involved a macropod. Even if a macropod was a representation of the animal, it cannot be determined whether the macropod represents a kangaroo, wallaby or wallaroo or whether this level of detail is even important when interpreting the painting. By ascribing labels to specific images, I am not attempting to interpret the image but rather giving it a label to help identify patterns in rock art across the landscape. Motif labels are adapted from Maynard (1976) and Abernethy (1984) and described in Appendix A3.

Level 1

At the most basic level, motifs were classified as either 'figurative', 'non-figurative' or 'track'. Dividing motifs into figurative and non-figurative allows a basic but useful comparison with surrounding rock art provinces (e.g. Cole and David 1992; David and Chant 1995).

Level 2

Figurative motifs were further classified into 'anthropomorph', 'zoomorph', 'material culture' or 'plant' (Level 2). 'Plants' were identified by their similarities to plant motifs identified in Laura rock art (after Cole 1998 and Trezise 1993).

Non-figurative motifs were classified into 'geometric' or 'abstract'. Geometric designs were those which had an identifiable shape or pattern, while the abstract category captures designs that had no identifiable shape.

Level 3

Level 3 describes the motif types for each category. Systems differed slightly for rock art and dendroglyphs. In the rock art figurative classification, anthropomorphs, for example, could be classified as 'male', 'female', 'indeterminate' (where it could not be seen) or 'no gender' (where a

motif had nothing clearly identifying it as male or female). Zoomorphs and material culture were classified according to the animal or item they appeared to represent.

Level 3 non-figurative abstract were classified as either 'linear' or 'solid', while geometric were 'enclosed' or 'unenclosed'. Non-figurative motifs were identified into three types – abstract, enclosed geometric and non-enclosed geometric. Geometric motifs were classified as those shapes that could be labelled (e.g. oval, circle) and were either 'enclosed' by a defined border or 'unenclosed' with no border. Abstract motifs are those shapes which cannot be labelled.

Level 4

Level 4 motifs were individual classifications of motifs. These were only used where specific differences in Category 3 motifs could be classified.

4.9 Measuring change over time

In 1991, as part of his investigation of Wet Tropics dendroglyphs, Gordon Grimwade made two full scale replicas of carvings on the Jirrbal estate. The process, documented in Grimwade (et al. 1995), involved laying cheesecloth over the carving and painting the cloth with layers of latex. After the latex hardened, the mould was removed from the tree and covered with fibreglass resin. The resulting cast was painted in greens and browns to resemble the actual bark of the tree. The result was a life-sized cast of the carving. Two casts of each of the two motifs were made for display. In 2013, one cast was on display at the Ravenshoe Visitor Centre, one on display at the Yarrabah Museum (since removed from display) and one held by Grimwade (since donated to Wabubadda Aboriginal Corporation). The fourth carving could not be relocated.

Grimwade's carving provided an excellent opportunity to assess preservation over time (documented in Buhrich et al. 2015). One replica was taken from the Ravenshoe Visitors Centre into the field to directly compare preservation of the living dendroglyph and the replica. The field team included Gordon Grimwade, Christine Grimwade, Betty Cashmere, Cedric Cashmere and Melissa Spry. The fibreglass replica was placed adjacent to the living dendroglyph and digital calipers used to take measurements were taken of the width of the carving from the same positions on the replica and the actual dendroglyph. The fibreglass model had not accurately replicated the depth of carvings.

It was intended to compare the cast of a second dendroglyph, also made in 1991. Several attempts were made to relocate the second tree, however the poor state of tracks made access extremely difficult. The access track to the second tree was originally a logging road, but it has not been maintained since declaration of the Wet Tropics World Heritage Area in 1988. Closing logging roads is a deliberate conservation strategy to reduce impacts from weeds and feral animals

(Laurence and Goosem 2008). It may be possible to relocate and compare the second cast to the original dendroglyph in the future to confirm whether carvings grow differently on different tree species.

4.10 Interviews and participant observation

Participant observation, as a form of ethnography, is aimed at understanding from a perspective other than your own, which requires learning from people rather than studying people (Spradley 2016:3). One of the difficulties for a researcher in participant observation is maintaining a balance between 'insider' and 'outsider' roles. For this study, I employed 'moderate participation observation', which aimed at achieving a balance between passive observation and immersion (DeWalt et al 1998). Following the tradition of 'active listening' (DeWalt and DeWalt 2002), information was gathered primarily through conversations between the researcher and relevant custodians while looking at the carvings, but also during preparation for site visits and after site visits. Participants were selected by the relevant Aboriginal Corporations as having responsibility for specific sites and responsibility to oversee the research from a cultural perspective. They were knowledge holders with high personal standing in the community.

Conversations took place over extended time frames, in some cases over two years and multiple projects. Themes emerging from the research developed over time and this gave interviewees an opportunity to consider their responses, talk within their communities and form considered opinions on the topics discussed. Importantly it also allowed a relationship to develop between interviewer and interviewee based on mutual respect and reciprocity. Hence the interviews were not 'snapshots' of one person's view at one moment in time but rather the culmination of a series of conversations through time. This long-term approach meant that the themes that emerged were developed through collaboration between the researcher and the interviewee and were influenced by responses to the site and their contexts. A list of interviews is provided in Appendix A4.

Interviews sought to document:

- Stories about the site(s)
- Meaning of individual motifs
- Significance of motifs and the sites
- General comments on connection to country
- History of the Aboriginal use of the sites since colonisation
- Other topics the Aboriginal custodians wished to document.

At times interviews were conducted with the same person over a number of sessions. This was particularly useful as it gave interviewees an opportunity to reflect on the site over time and provided an opportunity for a relationship to be built between interviewer and interviewee in which conversation became more comfortable. Photographs, reports and maps were sometimes used as props, for example if an interview took place off site a topographic map could be used to identify places that were discussed. Interviews took place on site, in cars and around the kitchen table. The choice of locations of interviews was guided by the interviewee. Interviews were generally limited to one hour out of consideration for the risk of participants, particularly the elderly, becoming fatigued.

Semi-structured interviews and unstructured conversations and were documented by either voice recorder, video or written notes. Interviews were recorded using an iPhone 4. A camera was not used as the aim of the interviews was to let the conversation flow between researcher and interviewee. A camera was considered too invasive, while the mobile telephone was easily transportable and able to be accessed and switched on with relative ease as the opportunity allowed. With permission from the interviewee, the phone was placed on a table, the arm of a chair or another discreet location during conversation. A lapel microphone was attached to the interviewee's shirt in outdoor situations. Permission to use the information was sought at the start of the interview and confirmed after the interview was completed. If requested by the interviewee, certain sections of the interview (for example, private recollections not relevant to the project) were removed during the transcription process.

Interviews were transcribed into text by me and input into NVivo software. Transcriptions were retained as spoken, and therefore 'ums' and false starts were included. Both recordings and transcriptions were retained by the researcher and provided to the relevant individual or corporation where requested. Themes were identified manually and relevant quotes categorised into thematic nodes.

4.11 Archival research and other sources of information

Archival research was undertaken for this project but few archival sources relating to either rock art or dendroglyphs in the Wet Tropics were located. Local sources proved to be more valuable sources of information, including ex-Forestry employees, some of whom participated in field visits, employees of the Queensland Parks and Wildlife Service who provided digitised historic maps, and local bushwalkers. The latter proved particularly useful sources of information as they had intimate knowledge of certain areas. In some cases, local bushwalkers led me, Aboriginal party representatives and others into sites that had not been visited for over 10 years.

The Queensland Museum holds five sections of bark with carvings taken from one tree in Upper Freshwater Creek. These were inspected in August 2015 in the Queensland Museum and sections were photographed and sketched, and a report was prepared for the relevant Aboriginal party (Buhrich 2015b).

Forestry records in the Queensland State Archives were searched for any mention of dendroglyphs, preservation areas, rock art sites or other cultural sites. Despite the extent of knowledge of rainforest Aboriginal sites by Forestry employees, and their active role in designating preservation areas for the dendroglyphs, very little information appears exists in the correspondence files. It is possible that this information could surface with further investigation, for example from private collections.

4.12 Constraints of the methodology

Methodological constraints included both physical and cultural issues. As described previously, access to rock art and dendroglyph sites was challenging. For the most part, existing site records contained poor information on how to locate sites. In the case of the dendroglyphs, for example, site records included six-digit grid references and noted landmarks that are no longer present and, in rare cases, compass and tape maps. While six-digit grid references are helpful in some environments, they are not that useful to locate a single tree in the rainforest, where thousands of individual trees exist per hectare. Previous rock art recordings are of varying quality and each site required revisiting and rerecording to ensure the data was consistent. These constraints meant that there was not enough data for principal components analysis and as a result, only simple statistics were employed. Despite these constraints, the records includes data from sites across four of the six major linguistic groups and these were adequate to produce comparative data across linguistic areas.

The methodology of working collaboratively with Aboriginal parties meant that the research was entwined with community concerns and issues. Sites were not included where approval was not obtained and this excluded some significant areas such as Mossman and Yarrabah. Approval to include sites in the research sometimes came with conditions such as the use of photographs, right to publish site data or restrictions on certain motifs. 'Working alongside' meant that fieldwork often required a high level of organisation. Site visits could include up to ten Aboriginal custodians, spanning multiple generations. Sometimes site visits had to be postponed on short notice if appropriate custodians were not available.

Balancing the requirement of the university policies and 'working alongside' Aboriginal partners posed challenges. While site trips could be postponed by custodians on short notice, university policies required field trips to be organised weeks in advance and sometimes required the

approval of up to six university administrative or managerial staff. The names of attendees needed to be included in travel requisitions, but as Aboriginal parties chose and contacted field workers I did not always know who was going to attend prior to the site visits. Conversely, Aboriginal custodians sometimes requested meetings at short notice, making it difficult to meet the time frames required by university policies for travel approval.

At the start of the project, the Ethics Committee restricted photographs of Aboriginal people, even if those photographs were only intended for reports to the relevant communities. This placed the researcher in a difficult position. In many cases my research provided a rare opportunity for Aboriginal custodians to visit these sites, and visual records of their presence was important to community members. This issue was eventually resolved and the original Ethics approval amended.

Summary of theory & methodology

The Wet Tropics presents an excellent opportunity to explore the relationship between rock art and dendroglyphs produced by Aboriginal groups in the Late Holocene. Both rock art and dendroglyphs in the Wet Tropics are of a limited age range, both likely to date from the last few hundred years. The Wet Tropics have only been permanently occupied in the Late Holocene, a time when rock art style in surrounding provinces was firmly entrenched. Aboriginal groups of the Wet Tropics enjoyed a relatively high population with geographically contained but highly diverse linguistic groups. Following Gamble's open/closed social network theory, rainforest rock art should demonstrate a high degree of heterogeneity. Information Exchange links heterogeneity in rock art to social indicators, such as language. The Wet Tropics region presents a unique opportunity to compare two aspects of visual expressions, rock art and dendroglyphs, to language boundaries.

The methodology followed here incorporated a personalized brand of community-based heritage practice, based on local conditions. As Rainforest Aboriginal people have consistently expressed a desire for researchers to work with them, as research partners, my study achieved this by developing mutually beneficial research projects that incorporated rock art and dendroglyphs. Incorporating formal and informed techniques provided results, discussed in the following two chapters that recognise the significance of the Aboriginal cultural landscapes, while contributing to our understanding of regional style.

5 Rock art results

The previous chapters have identified the Wet Tropics as an excellent place to apply the tenets of Information Exchange using rock art and dendroglyphs. This chapter presents the results of rock art recording and analysis. The first part of Chapter 5 describes patterns observed in rock art motifs at each site cluster. Rock art sites are presented in complexes which are defined as clusters of sites within 5km of each other and usually within the same watercourse. The quantitative analysis of rock art data is complemented by incorporating story, history and landscape. This approach is a direct influence of ‘working alongside’ Aboriginal custodians. The methodology evolved through the fieldwork and in response to the information that was shared by Aboriginal informants during inspections. The second part of Chapter 5 presents an analysis and interpretation of patterns in the rock art motifs. Analysis of the symbols identifies interesting patterns between eastern and western sites of the Wet Tropics and places the Wet Tropics rock art with their context of surrounding rock art style provinces.

5.1 The sample

Eight site clusters, with a total of 25 sites, were recorded in the estates of seven Aboriginal parties (Table 5.1). This included sites in five language estates, the Yalanji, Djabugay, Yidinji, Dyirbal and Wurungu. A total of 522 motifs were recorded. In this chapter, rock art sites and motifs are described from the north to the south.

Table 5.1 List of site clusters, Aboriginal party and language group (*Bulwai maintain that Djabugay is a dialect of the Buluwandji language, not the other way around).

| Site cluster | Aboriginal party | Language group |
|----------------------------|-------------------|----------------|
| Melody Rocks | Bulgan Warra | Yalanji |
| Cairns coastal | Yirrganydji | Djabugay |
| Bare Hill | Bulwai | Djabugay* |
| Davies Creek | Bulwai | Djabugay* |
| Mulgrave | Malanbara Yidinji | Yidinji |
| Wooroonooran National Park | Mamu | Dyirbal |
| Silver Valley | Jirrbal | Dyirbal |
| Mount Claro | Gugu Badhun | Wurungu |

5.2 Melody Rocks (MR)

In 2014, the Chillagoe Caving Club documented 23 cave systems, four of which contained rock art, within Melody Rocks, an unusual limestone outcrop about 20 kilometres west of the northern section of the Wet Tropics (Bannick and Weiss 2014). Melody Rocks is midway between the Laura sandstone province and the Wet Tropics, and, like the Mitchell-Palmer, Melody Rocks is a limestone formation.

About 8kms south of Melody Rocks are a series of swamps that were an important meeting place for Yalanji speakers, Gugu Bidiji, Gugu Nyunkal and Gugu Yalanji during the wet season when magpie geese and their eggs were abundant (Anderson 1983). In the cooler, drier season people would disperse into small family groups and concentrate on hunting wallaby, collecting yams and fishing (Roth 1910). The 1873 Palmer River goldrush sparked the influx of 10,000 miners to the port of Cooktown, which caused major disruption for Aboriginal people in southeast Cape York Peninsula. Colonial outposts were quickly established in Laura, Lakeland and Cooktown and land was quickly taken up for mineral and pastoral interests. In the early years of the Palmer River gold rush Aboriginal people led attacks on the invaders from remote refuges in the sandstone escarpments at Laura and elsewhere (Trezise 1993). Melody Rocks would have been well suited to provide a refuge for Aboriginal people during the early days of contact. One piece of decorated ceramic found at one of the sites demonstrates use during post-contact times (Bannick and Weiss 2014), however no oral history relating to Melody Rocks has been documented.

Melody Rocks is within Alkoomie Station, a pastoral lease held by the South Endeavour Trust for conservation purposes. The sites were recorded over a four-day expedition in May 2014 by Nikki Winn and me at the invitation of South Endeavour Trust in response to a mining lease granted over the limestone outcrop.

As a perpetual lease, Alkoomie Station is non-claimable under the *Native Title Act*, and no Cultural Heritage Body has been established under the *Aboriginal Cultural Heritage Act*, although the Cape York One Claim lodged in 2014, includes all claimable land around Alkoomie Station. The Aboriginal Party are the nine applicants to the Cape York claim, represented by the Cape York Land Council (CYLC). However, the CYLC have established that local groups should be responsible for cultural heritage matters. For the purposes of this project, the Aboriginal party was represented by Harold Ludwick, on behalf of the Yalanji speaking Bulgan Warra clan, although it is recognized that other Aboriginal groups to the east and north also express an interest in the area. Bulgan Warra requested that photographs of the art not be included in this thesis. A full catalogue of motifs was lodged with Bulgan Warra in 2014 (Winn and Buhrich 2014)

Symbols had specific meanings for Aboriginal informants, however permission was not given for these to be included in the thesis. The symbols had links with the rock art to the north.

MR1: Diiwan Shelter

Diiwan Shelter is a narrow passage formed by shallow limestone overhangs (Figure 5.1). Access is through a long passage with an open ceiling and wall approximately 2m high. The passage leads to a small enclosed cave. Most of the rock art motifs were located low on the eastern wall of the entrance passage, positioned under a natural overhang in the shelter wall, or tucked into small recesses and side alcoves. The rock art motifs are generally exposed to the weather, therefore, their overall condition ranged from good to very poor. Only two motifs were found in the enclosed cave.

The fifteen rock art motifs in this shelter were all monochrome (red), with no superimpositions, and there are gaps between each grouping of paintings. Many of the motifs are non-figurative, with only a single clear anthropomorphic or zoomorphic design recorded. The site was named Diiwan by Harold Ludwick, which is a Yalanji word for scrub turkey, after the turkey nest located near its entrance.



Figure 5.1 Diiwan shelter, Melody Rocks.

MR2: Dumbun

The Dumbun site complex includes a low rock shelter adjacent to a flat rock pediment containing three stone arrangements and grassed areas. A small creek forms the northern boundary, eucalypt trees line the western edge of the site, the karst formation is the eastern boundary and the low rock shelter is on the southern site boundary. Two stone arrangements, at the northern end of the site complex, consist of cairns of limestone pieces to a height of around 0.8 metre and 1.5 metres wide. A third cairn consists of a semi-circular formation of stones, which includes one stone that has been lifted vertically. Stone arrangements are difficult to identify, but the three cairns described here could not have formed naturally and are not likely the result of post-contact activities. The complex is approximately 50 metres from north to south, and 25 metres wide.



Figure 5.2 Dumbun shelter opening is 0.8m high.

A low, deep shelter is formed at the southern end of the site complex. The shelter is 0.8 metres high and the art, placed on the ceiling, is only seen when the observer lies on their back inside the shelter (Figure 5.2). Three techniques have been used to create the art: stencils, drawn charcoal lines and painted motifs. Five of the seven motifs are anthropomorphic, four of which are identifiably male. There is one white hand stencil and another motif is an orange oval. The five anthropomorphs were identified as spirit figures with ceremonial meanings, recognised by the internal decoration (horizontal bands across chest), presence of waist bands, number of fingers (sometimes more than five) and their large scale (H. Ludwick pers. comm.). Dumbun shelter is

the only site in Melody Rocks with graffiti: 'Ben M' is scratched on the shelter ceiling near the motifs. Several of the motifs are affected by runoff and fungal growth.

MR3: Balinga Shelter

Balinga is the most heavily decorated shelter in this complex, with 42 identifiable motifs. It is an oval shaped cavern with a large entrance and floor that slopes down towards the back of the cave to a lower semicircular section illuminated by a narrow skylight. Most of the chamber is in semi darkness (Figure 5.3). Rock art was recorded in eight panels, including paintings on side passages, which are in almost total darkness. Three panels were submerged during the floods associated with cyclone Ita, five weeks prior to our fieldwork. Although some motifs were submerged during this event, it appears to have caused little damage to the paintings as the flood level could be seen intersecting some of the motifs. Stone flakes, animal bone and charcoal are present both on the floor surface and in the floor deposits.



Figure 5.3 The entrance of MR3, most of the cavern where the art is depicted is within semi-darkness.

Many of the designs are produced in monochrome red pigment, although yellow and brown clay pigments are also used, and there is a single bichrome possum design. Ten distinctive motifs,

classified as material culture, identification restricted, were recognised by the Aboriginal party as having a specific meaning that remains confidential on request of Bulgan Warra.

MR4: Gibson's Cave

Gibson's cave was located on the northern Melody Rocks karst. The opening of the shelter is 1.5 metres high and 4.5 metres wide, and the ceiling slopes at a 45° angle until it reaches the floor at the back of the cave. From the dripline to the rear of the shelter is around seven metres, although the walls of the cave taper to a point at the rear, making the rear of the shelter too narrow and low to sit comfortably. Floor deposits include extensive charcoal and it is likely this shelter has deep archaeological deposits. Two potential artefacts were found – a fragment of a mussel shell and a quartz flake.

Most of the painted rock art is concentrated at the rear of shelter, near the base of the walls or under low ledges. Many of the motifs could only be produced when lying on the floor. Most of the rock art motifs are painted bichrome figurative designs but there are also two white hand stencils. Near the entrance of the shelter, on a vertical wall, there are two groups of highly patinated cupules, superimposed with faded red painted motifs. These cupules are the only evidence of engraved motifs found at Melody Rocks to date.



Figure 5.4 Photographing images in MR4, which could only have been made by lying on the floor.

A low ledge on the right-hand side of the cave has a series of motifs painted on its ceiling. These were difficult to view and photograph, as the ledge sat only 30cm above the ground level (Figure 5.4). A conjoined couple was the dominant motif painted under the ledge, measuring 1.2 metres in length.

Motif classification at Melody Rocks

The rock art of Melody Rocks is a combination of nearly equal numbers of abstract and figurative designs (Table 5.2). Anthropomorphs are the most numerous motifs, with four males, all with horizontal bands across their chests, found at Dumbun; noticeably no female anthropomorphs are depicted at Melody Rocks. Linear designs are the second most common motif, including two groups of short parallel vertical lines. A number of motifs were identified by the Aboriginal party as specific items of material culture that relate to ritual activities. Information and images of these motifs is restricted and will not be included here. However, there are other elements of this site complex that indicates a theatrical element to how the art was viewed.

Some rock art motifs are deliberately painted under rock shelves and can only be seen by crawling under a rock ledge. All male figures with horizontal bands are depicted in this manner, as are the conjoined couple at Gibson Cave. Depictions of rock art in the 'twilight' zone are unusual in northern Australia (Winn 2016). They suggest that access or visibility of some motifs was controlled, for example a torch is needed to see many of the paintings in Balinga Cave and some panels are placed inside narrow tunnels in complete darkness. Large male anthropomorphs under the rock ledge at Dumbun can only be seen after crawling in and lying on one's back suggesting these were not places that were casually visited. Depictions of body scars and waist belts on male anthropomorphs and the presence of stone arrangements outside the Dumbun shelter further illustrate elements of ritual activities.

5.3 Cairns coastal sites (YRA)

Three art sites were recorded on the coastal strip between Cairns and Port Douglas; two rock shelters are on coastal headlands and a third is under a granite outlier in a creek bed. The coastline between Cairns and Port Douglas consists of a narrow strip of land bounded by the steep McAlister Range and the Coral Sea. This is a rich marine environment of mangroves, fringing reefs and sandy beaches with rocky headlands. Numerous creek lines, fed by permanent springs, descend from the range into the sea, but there are no major river systems. The terrestrial environment is open woodland dominated by eucalyptus with littoral rainforest lining creeks, patches of cycas media, and paperbarks fringing the beaches.

Table 5.2 Motif classification of Melody Rocks art.

| | MR1 | MR3 | MR2 | MR4 |
|------------------------|-----|-----|-----|-----|
| Zoomorph (3) | | | | |
| Lizard | | | | 1 |
| Possum | 1 | | | |
| Echidna | 1 | | | |
| Anthro (18) | | | | |
| Male | | | 4 | |
| Indeterminate | 7 | 1 | 1 | 5 |
| Material culture (16) | | | | |
| Yam | 4 | 1 | | 1 |
| Restricted information | 10 | | | |
| Abstract (11) | | | | |
| Solid shape | 6 | | | 2 |
| Panel of dots | 3 | | | |
| Linear (17) | | | | |
| Single line | 4 | 1 | | 1 |
| Multiple lines | 2 | 3 | | 2 |
| Row of short lines | 2 | | | |
| Geometric (9) | | | | |
| Semi-circle | 1 | | | |
| Oval | 2 | 4 | 1 | |
| Circle solid | 1 | | | |
| Enclosed geometric (9) | | | | |
| Enclosed dots | 2 | 4 | | 1 |
| Barred oval | 2 | | | |
| Stencil (hand) (3) | | | 1 | 2 |
| Total (84 + cupules) | 48 | 14 | 7 | 15 |

When the research commenced, Yirrganydji Gurabana Aboriginal Corporation (YGAC) were the Aboriginal party for the area. This section of the YGAC claim was replaced by the Cairns Regional Claim, with Jeanette Singleton as the applicant representing Yirrganydji, or coastal, interests. Yirrganydji identify as 'sea' people and the beaches, swamps, fringing reefs and hinterland would have been highly attractive occupation areas. Senior Yirrganydji custodian, Dr George Skeene, has been documenting and managing cultural heritage resources between Cairns and Port Douglas

since at least 1990 and provided his support for the fieldwork. Jeanette Singleton, Chair of Yirrganydji Aboriginal Corporation, approved information to be included in the research. Yirrganydji Rangers identified site YRA3 during a fieldtrip in July 2016, YRA1 and sites YRA2 were recorded in 2014.

YRA1: Dingo and boomerang

YRA1 is a small metamorphic shelter on the bank of a seasonal stream. Two well preserved motifs are visible – a dingo and part of a boomerang (Fig 5.5). Both are painted in red ochre on the vertical wall panel facing west. Waterwash has eroded the left side of the boomerang.

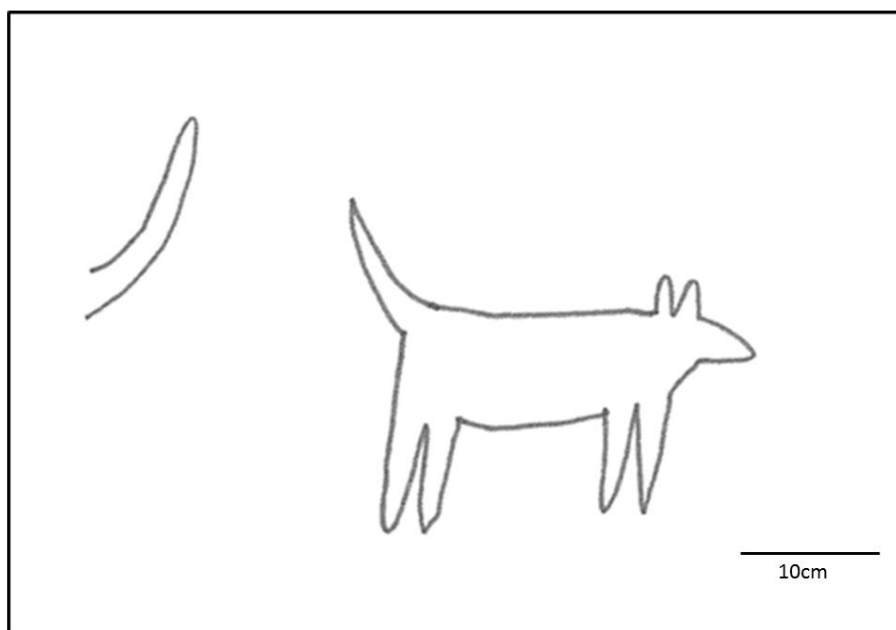


Figure 5.5 Part of boomerang and dingo, YRA1.

YRA2: Turtle Cove

YRA2 is a highly exposed shelter facing northeast, only about three meters above high water mark. The shelter provides protection from the prevailing southeast trade winds but little protection from rain or sun. One of the walls is a smooth, vertical panel, which was an ideal canvas for rock art. Paintings recorded by Edwards (2007) in 1971 are no longer visible but DStretch enhancement revealed two small anthropomorphs, a lizard and a star shape (Figs 5.6 & 5.7). Charcoal and wax have been used to write on the walls in recent years, although it is possible that visitors are unaware they are in an Aboriginal site, as no rock art is immediately obvious due to natural preservation factors. Archaeological deposits include a large variety of shellfish remains, which appear to be from coastal, reef and mangrove environments.

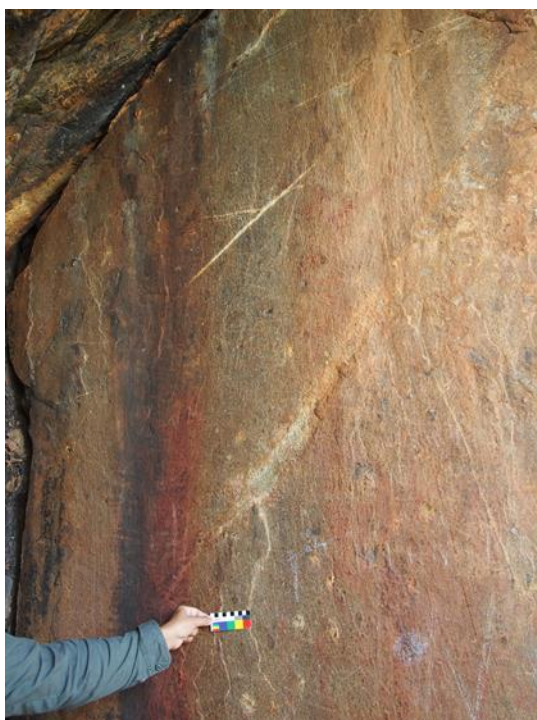


Figure 5.6 Turtle Cove without enhancements.

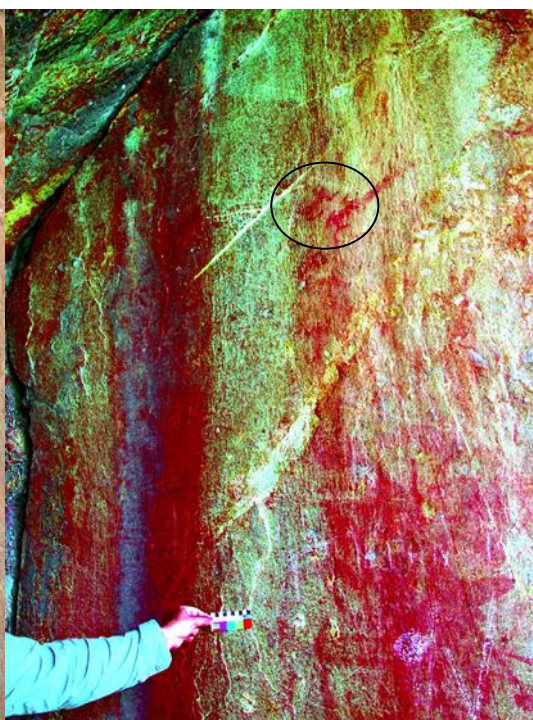


Figure 5.7 Turtle Cove with enhancements. Note two anthropomorphs in top of right enhanced image.

YRA3: Yule Point

YRA3 is formed in an eroding cliff face on a rocky point facing the sea. The shelter contains dense archaeological deposits including a wide variety of shellfish and other marine resources. A lens of slate is eroding out of the cliff face and sharp slate flakes are prevalent in the floor deposits. The shelter is approximately 15 metres long and five metres high. The shelter is currently enclosed by heavy vegetation, which is so dense that it cannot be seen from the outside and the site remained elusive despite numerous searches over a number of years. Photographs published by Edwards (2007) show the site was highly exposed in the 1960s. The shelter wall is less than 10 metres from high tide mark and the rock art is poorly preserved.

Four motifs were recorded at this site, some of which could only be seen with enhancement. They consist of a red zoomorph, the front of which has been washed away by water washing down the cave wall, a white anthropomorphic 'stick figure', a black 'hooked stick' (observed using DStretch) and an oval with an internal line in white.

Motif classification of Cairns coastal rock art

Rock art sites in the Cairns coastal region tend to be small, exposed rockshelters with four or less visible motifs. Preservation is very poor, due to exposure to wind, sun and rain. One shelter has suffered from extensive graffiti. Zoomorphs are recorded in each of the three shelters, and include

a lizard, kangaroo and a dingo, while anthropomorphs and material culture are present in two of the shelters along with small numbers of geometric and linear designs (Table 5.3).

Table 5.3 Motif classification of YRA rock art.

| | YRA1 | YRA2 | YRA3 |
|------------------|------|------|------|
| Figurative (8) | | | |
| Zoomorph | 1 | 1 | 1 |
| Anthropomorph | | 2 | 1 |
| Material Culture | 1 | | 1 |
| Non-fig (2) | | | |
| Geometric | | 1 | 1 |
| Total (10) | 2 | 4 | 4 |

5.4 Bare Hill (BH)

Bare Hill is the name of a cluster of rock art sites on the northern slopes of the Lamb Range. It is a major Wet Tropics art complex, based on the number of motifs and proximity of sites to each other. This is one of the most researched art complex in the Wet Tropics and it has been subject to oral history recording (Seaton, 1951), archaeological excavation (Wright 1971), rock art analysis (Clegg, 1983) and visitor management reports (Brown, 1993; Horsfall, 1994; Horsfall and Hunter 1996; Walsh 1986).

Fieldwork at Bare Hill took place during several visits in 2013 and 2014 and was overseen by Bulwai custodian Willie Brim. Consultation was also held with Gerald Hobler (Chair) and Hanz Spier (Office Manager) of Djabugay Aboriginal Tribal Corporation. Reports resulting from fieldwork were provided to Willie Brim as representative of the Bulwandji clan. In 2016, after fieldwork was completed, a native title claim was registered on behalf of the Djabugay-Bulwai-Yirrgay-Nyakali-Guluy people from Smithfield (Cairns) to Mareeba that includes the Bare Hill and the Davies Creek art sites (QUD398/2015). This was replaced with a subsequent native title claim, the Cairns Regional Claim. Willie Brim is an applicant to the Cairns Regional Claim.

The Bare Hill art complex is a series of boulders on a ridge between Bridle Creek and an exposed granite escarpment after which the hill is named. The rock art panels are painted motifs in five granite rockshelters. Some panels are visible from the approach to sites, while others are hidden under ledges or accessed through concealed entranceways. At least one of the sites, BH1, is a story place (described below) as is the escarpment above. A walking track follows Bridle Creek, connecting Bare Hill and Davies Creek to the coastal lowlands via Freshwater Creek (Bottoms 1992). The description of Bare Hill sites begins with the site at the lowest elevation and leads to

the highest site, as this is the way I was guided by Willie Brim. All sites are connected by a walking track. The track to the two lower sites is accessible to the public, however the highest three sites are not, and so a map of the relationship of the sites to each other is not provided here.

BH1: Bunda Dibanji

BH1 is a large oval shaped granite outlier in a small gully. It has two rock art panels, A and B. Panel A faces north on a vertical wall with a shallow overhang and is clearly visible as the site is approached from the walking track going up the ridge (Fig 5.8). Panel B is painted on the ceiling of the southern side of the rock and can only be viewed by crouching under the rock.



Figure 5.8 BH1 Panel A is visible from ridge track, Kunandooran (enhanced, inset) is the major figure.

Red, yellow, white and orange motifs are painted on Panel A. Extensive superimposition is visible although few of the superimposed motifs can be discerned (Fig 5.9). The dominant motif is a large anthropomorph with its arms raised above its head, painted in red and outlined in orange with internal decoration of orange dots. An oval with radiating lines above the figure's left hand appears to be painted in the same orange colour. According to Aboriginal custodians, this is 'Kunandooran', a Bulwai culture hero who is also embodied in the rock itself (see also Seaton 1951). On this panel, 15 mostly incomplete anthropomorphic figures, including Kunandooran, can be identified. One anthropomorphic figure has a bulbous appendage reminiscent of 'Imjin' Quinkans (Ancestral Spirits depicted in Laura rock art, see Cole 2016:71). Linear designs

including a chevron, a hooked line and small arcs were also recorded. A panel of red dots is positioned two metres above the main rock art panel. Black algae are extensive on Panel A, some of which has been treated by an experimental cleaning technique (W. Brim pers comm.).

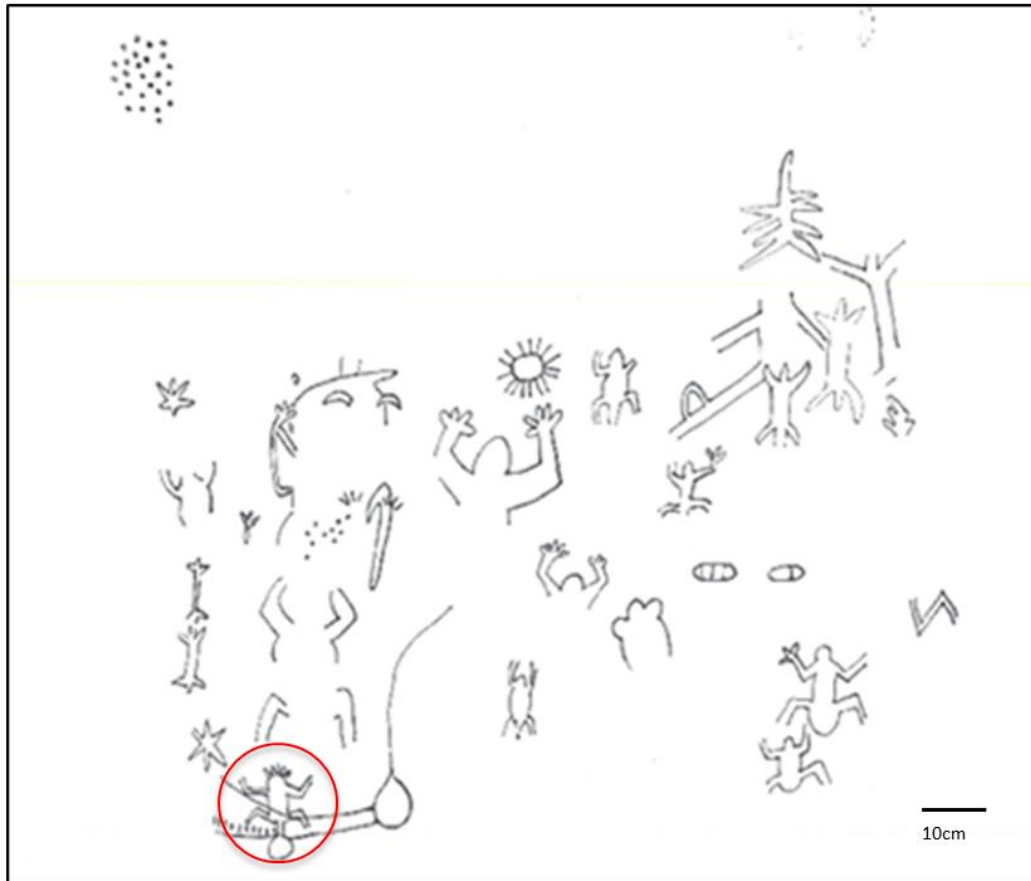


Figure 5.9 BH1 Panel A, note anthropomorph similar to 'Kennedy character' in red circle.

No superimposition is evident on Panel B, which is composed almost entirely of red anthropomorphic and zoomorphic figures. Six anthropomorphs and three zoomorphs were recorded, including a snake, a bird and a possible lizard. One anthropomorph is enclosed in two 'U' or 'rainbow' shaped lines.

BH2: White Kangaroo

BH2 is only 50 metres uphill from BH1 and painted with red and white images on a single wall panel. The site is known as 'White Kangaroo' to Aboriginal custodians, named after the largest figure at the centre of the panel. The White Kangaroo is one of four macropods painted at the site, but is notable because of its relatively large size and open mouth. Lizards, a possible dingo and anthropomorphs are also painted along with a small number of linear designs including three small arcs.

Water runoff has affected the preservation of some of the images, and mineral salts are visible. Fungus growth has blackened the right side of the panel, possibly covering some paintings. BH2 has an uneven, rocky floor with some charcoal and small stone flakes.

BH3

BH3 is a small shelter with a flat sandy floor. Two small red lizard type figures, in poor condition, are painted on the rear wall.

BH4: Boys Waiting Room

The fourth site in the Bare Hill complex is formed from a granite slab resting on a smaller boulder, forming a low, dark shelter with a flat sandy floor which is approached from a rocky creek line. The entrance is only one metre high and the art is accessed by crawling into the shelter and lying on the floor. The lack of floor space and difficult access makes it impractical for a living area and there is no charcoal or archaeological debris. Only a small number of people can fit in this shelter at the same time.

The ceiling is extensively decorated with red motifs, a few of which are superimposed. Although the motifs are very faded and light is poor, DStretch enhancements revealed several additional motifs. Anthropomorphs are the most common motif type, six of which are male and four of unidentifiable gender. Six of the 27 motifs are zoomorphs, including three macropods, one with a barbed spear in its flank (Fig 5.10) and three four-legged zoomorphs. One of the zoomorphs is interpreted by Willie Brim as a possum, identified by its long curly tail. The other two are possibly dingoes as they have four legs of even length, pointed ears and a pointed tail, reminiscent of the paintings identified as 'dingo' in Laura rock art (Trezise 1993). Twelve shapes are abstract including linear and geometric shapes.

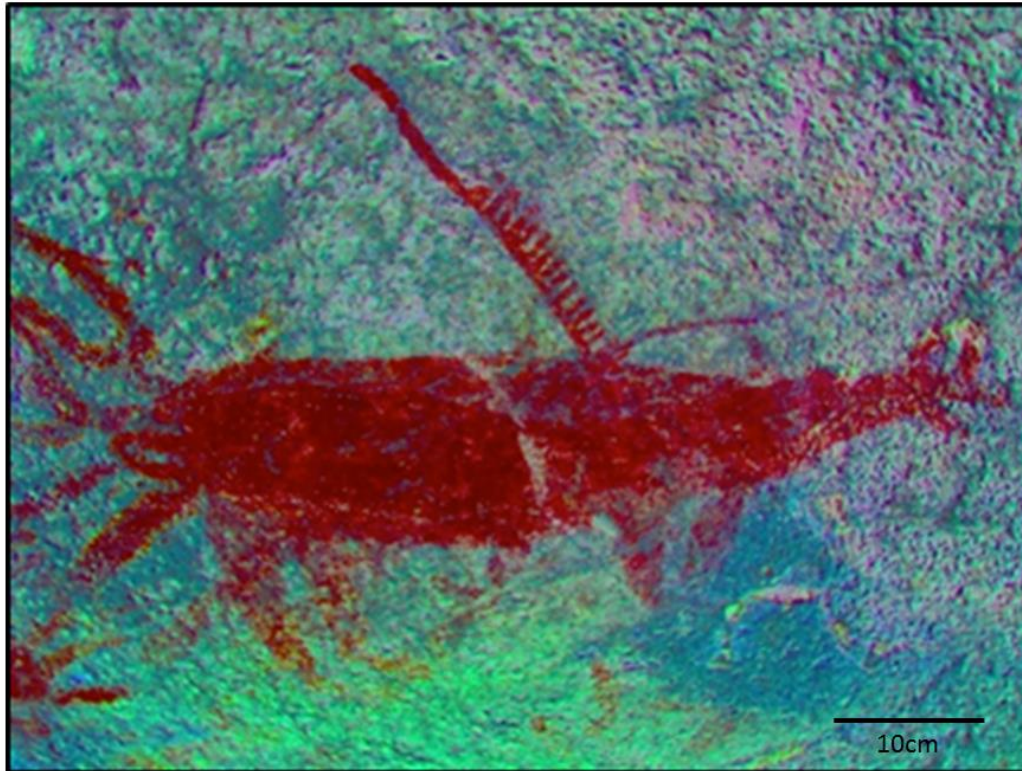


Figure 5.10 BH4 Macropod with barbed spear in its flank (enhanced).

BH5: Cassowary Site

Paintings in BH5 are on the ceiling and rear wall of a large granite outlier. The entrance is a small opening on the lower side of the outlier that leads into a dark shelter with an uneven rocky floor. Fungal growth is extensive making the shelter ceiling and walls appear black. Forty figures, mainly in red, were painted here. One unusual attribute of the pigment in this shelter are 'negative' figures where black fungi has grown around a previously existing painting, leaving a blank where the paint once existed. All negative images are on one ceiling panel, over the entrance. The main negative image is an open-mouthed cassowary. Cassowary motifs share specific attributes, including three toed feet, bulbous bodies, small tails, short front arms and 'helmets'. The short front arms are the only of elements that are not obvious when looking at the actual bird. Cassowaries keep their black feathered front wings tucked into their bodies and hence they are not easily seen. However, the Bulwai tell a story of the cassowary that involves the animal having its arms cut short, and the short front arms depicted in the rock art could represent this story (discussed below).

The second and main panel is part of the ceiling that slopes down to form the rear wall (Fig 5.11). It is dominated by male anthropomorphs, some with horizontal lines across their chests. Zoomorphs are also prevalent. A third of all motifs are zoomorphs, but only four distinct species are identifiable. These include equal numbers of macropods, cassowary and eel and a single unidentified four-legged animal. Two large macropods face each other, their paws joining an anthropomorph connecting the three motifs. The right macropod has three spears in its flank.

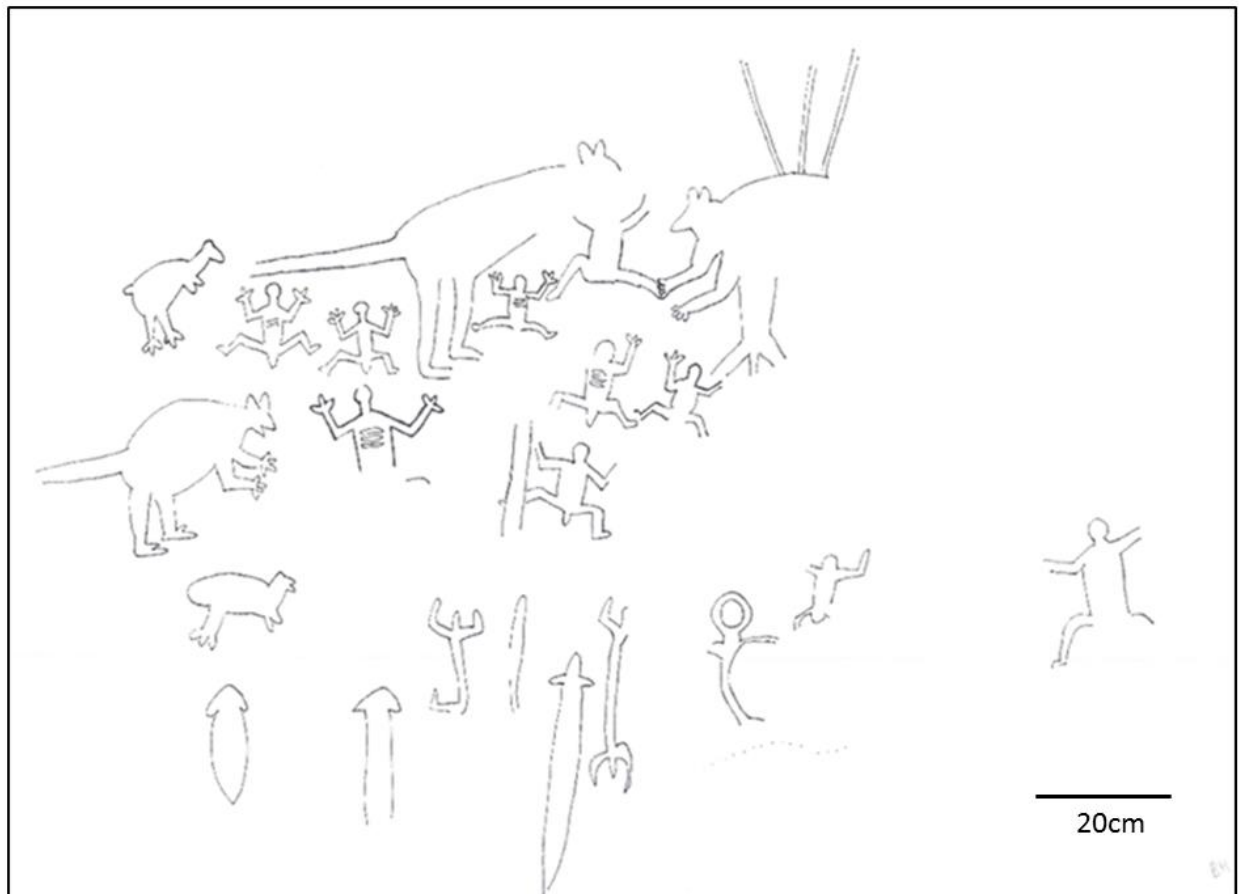


Figure 5.11 BH5 Panel B features zoomorphs and anthropomorphs.

Material culture is difficult to identify in rock art. For example, one motif was originally recorded as an enclosed abstract shape; however, on enhancement the internal decoration appears to closely resemble rainforest shields recorded from this area. Two possible swords were also recorded, both are long thin rectangular shapes reminiscent of rainforest swords and associated with anthropomorphs in positions reminiscent of historical photographs, one wielded above the head, the other by a person's side.

Anthropomorphs are the most common motif in BH5. It is notable that males, but not females, are present, some with horizontal stripes across the chest. All the male figures with chest stripes have three or four fingers on each hand, the three fingered hands being very similar to the cassowary foot.

A small amount of ochre and some stone tool debris is present on the floor of this site. As in other Bare Hill sites, white chalk outlines some of painted motifs, which is presumably the remains of Seaton's recording of the site in the 1950s.

Motif classification of Bare Hill rock art

Site visibility, motifs and composition are strikingly different between sites in the Bare Hill complex. Three of the site panels, BH1A, BH2 and BH3 are easily visible from outside the shelters and are dominated by abstract motifs. The remaining panels are hidden from outside view, further restricted by physical access through small entrances or under ledges. Restricted panels are dominated by figurative images of anthropomorphs and zoomorphs. Several open-mouthed macropods and cassowaries are depicted. A list of motifs recorded at the Bare Hill complex is provided below (Table 5.4).

Kunandooran and the Bulwai cultural landscape

As discussed in 2.11, *bulurru* describes the fabric of the social and physical landscape for Djabugay-Yidinji speakers, including Bulwandji. *Bulurru* is the rules and protocols established by the ancestral beings who created the mountains, rivers, creeks, hunting grounds, plants and animals and laid the social foundations for Bulwandji and their neighbours. These beings continue to inhabit the landscape and hold great powers over *bama* and others. Bulwai had two moieties, established by *Damarri* and *Guyula*, to which every Bulwai person belonged. Bulwai were either *Gurabana* or *Guraminy*, with Damarri representing *Gurabana* (*bana* = water) affiliated with the wet season, the eel totem and toxic nuts while *Guyula* is *Guraminy* (*minya* = meat), associated with hunting meat, walking tracks and the 'easy life' of the dry season (Bottoms 1999).

Contemporary interpretations of the Bare Hill complex describe the 'storied landscape' incorporating culture heroes, gendered sites and controlled spaces. Lower galleries are identified by Willie Brim as 'open' sites, both in terms of their community use and physical attributes while upper galleries are 'closed' both physically and as restricted sites. Formal attributes of rock art motifs are compared between these 'open' and 'closed' sites. This identifies differences in colour, form and superimposition that reflect different uses of the sites.

Table 5.4 Motif classification of Bare Hill complex

| | BH1 | BH2 | BH3 | BH4 | BH5 |
|------------------------------|-----|-----|-----|-----|-----|
| Zoomorph (30) | | | | | |
| Kangaroo | | 4 | | 3 | 4 |
| Bird | 1 | | | | |
| Cassowary | | | | | 4 |
| Eel | | 2 | | | 4 |
| Unidentified 4-legged animal | | 1 | | 3 | 1 |
| Possible lizard | | | 2 | | |
| Snake | 1 | | | | |
| Anthro (67) | | | | | |
| Male | 16 | | | 6 | 4 |
| Male parallel lines on chest | | | | | 5 |
| Indeterminate | 13 | 11 | | 4 | 8 |
| Material culture (11) | | | | | |
| Shield | | | | | 1 |
| Yam | | | | 1 | |
| Boomerang | | 3 | | | |
| Sword | | | | | 2? |
| Spear – in kangaroo | | | | 1 | 3 |
| Hooked stick | 1 | | | | |
| Clap sticks | | | | | 1 |
| Abstract (6) | | | | | |
| Panel of dots | 1 | | | | |
| blobs | | | | 1 | 3 |
| Radiating lines with blobs | | | | 1 | |
| Linear (13) | | | | | |
| Single line | 3 | | | 1 | |
| Closed linear shape | | | | 1 | |
| Row of short parallel lines | 1 | | | | |
| Small arc | 2 | | | | |
| Trident | 2 | | | | |
| Double ended trident | 2 | | | | 1 |
| Geometric (14) | | | | | |
| Star | 3 | | | | |

| | | | | | |
|-----------------------------|----|----|---|----|----|
| Circle with radiating lines | 1 | | | 1 | |
| Ovals with radiating lines | 1 | | | 3 | 1 |
| Arch | 2 | | | 1 | |
| Chevron | 1 | | | | |
| Enclosed geometric (1) | | | | | |
| Barred oval | 1 | | | | |
| TOTAL (143) | 52 | 21 | 2 | 27 | 41 |

The landscape which holds the Bare Hill rock art complex is known to Aboriginal custodians as Bunda Bibandji (*bunda* = mountain, *bibandji* = babies), meaning babies come from here. In Bulwai cosmology this is where the spirits of unborn Bulwandji reside. In this section Willie Brim's interpretation of the Bulwai ritual landscape, is used to focus on the change of visibility and form of motifs between lower (accessible) and higher (controlled) rock art sites. In the Bulwai interpretation lower sites in the complex are family places and women's sites; they are camping sites which all people could use. Higher sites are part of the male initiation ritual.

Kunandooran, a Bulwai culture hero, is an important feature of the Bunda Bibandji complex. He was a culture hero who lived and hunted in the Davies Creek area before he was burned and turned into a permanent feature of the landscape. As Willie Brim explains:

Kunandooran was a warrior who lived and hunted in the granite outcrops of Bulwai country. He stopped to rest from hunting kangaroos, and fell into a deep sleep. Nearby, two sisters were looking for bush food when they saw the tracks of boondara, the sacred cassowary. They decided to catch him using fire, but it quickly grew out of control, and the wind pushed it to where Kunandooran was sleeping. Kunandooran could not escape the fire, and he suffered horrible burns. The sisters heard his cries and went to help him. They took him to a healing place in the mountains and looked after him for 3 days until he finally succumbed to his wounds. He turned into the rock and his image was painted in red and orange.

Kunandooran's story is not a simple tale of the perils of uncontrolled fire in the Australian bush. There is a warning in this story about women and their role in the fire. Using fire for hunting is a forbidden activity for Bulwai woman and Kunandooran suffered the consequences of their actions. His image, prominently displayed on the main panel is a tangible reminder of the devastating effect of the sisters' actions. The Kunandooran story, like other Australian Aboriginal Dreaming phenomena, contains multiple layers of meaning. It also introduces the cassowary, only

a minor figure in the Kunandooran story, but an important motif in the highest rock art site. It identifies distinct roles and permissible actions for men and women. The full meanings of these layers of information are not immediately obvious; the information is controlled and revelation of this cultural knowledge was an important part of male initiation ceremonies for Bulwai initiates.

5.5 Davies Creek (DC)

Davies Creek is a permanent water source fed from the Lamb's Range, part of the Tinaroo Granite formation that rises out of the mountains behind Cairns. Clear, cool water flows steadily all year round, and Davies Creek Falls and the surrounding woodland environment makes this area an attractive recreational destination for swimming, camping and day trips. Four rock art sites were recorded as part of this research, all of which are on the state heritage database and known to Aboriginal custodians. It is possible there are more art sites in the area, and a single painting of a male anthropomorph, not recorded for this research, was recorded by bushwalkers on the 1990s on the upper slopes of the Lamb's Range. The four Davies Creek art sites are not a contiguous complex, but a collection of individual sites associated by their proximity to Davies Creek. Although no visitor data exists, Davies Creek art sites are probably among the most visited art sites in the Wet Tropics, based on observations of tracks leading to art sites, 'new' art motifs at art sites and a history of graffiti removed by Brown (2003).

DC1: Turtle Head Rock

This shelter is on the upper slope near the Turtle Head Rock. The shelter is formed on the underside of a large granite boulder and faces northwest. The entrance is nearly 25 metres deep and 10 metres wide with a steeply sloping roof with an average height of four metres (Figure 5.12). Twenty-five individual paintings were recorded, all on the ceiling of the shelter. The cave is dark and many motifs are in semi darkness.

The motifs at DC1 were recorded by Ron Edwards in 1968, and later by N.J. Harris, a Queensland government Honorary Warden based in Kuranda, in 1979 (DATSIMA Site File FM:A10). Harris noted the paintings were hard to discern, the floor was dusty and no artefacts were present. Although the site probably receives a small number of visitors via the Turtle Head Rock trail, there are no obvious changes to the site since Harris's description 35 years ago.

The motifs are very faded, red, and hard to see because of the lack of sunlight reaching the ceiling, but were revealed using DStretch enhancement. Motifs are clustered in three panels, with little superimposition. Panel A consists of red painted figures close to the entrance of the cave. Eight motifs, mainly anthropomorphs and zoomorphs (macropods) on the ceiling at the centre of the

cave make up Panel B (Figure 5.13). Panel C is a cluster of motifs at the rear of the shelter where there is no available light and the paintings are hard to see.

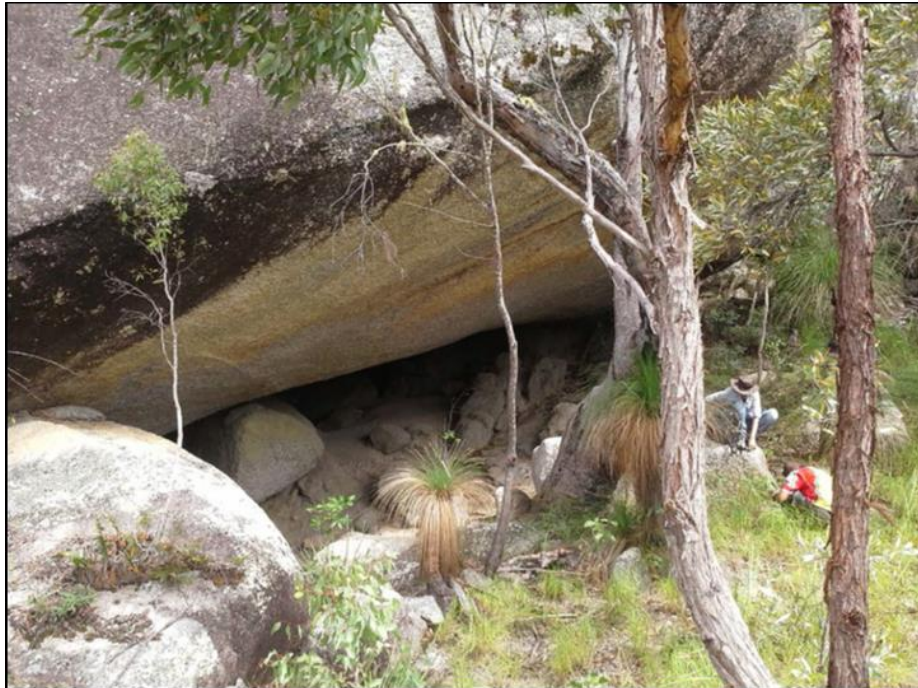


Figure 5.12 Turtle Head Rock main site (DC1), note person on right for scale.



Figure 5.13 Macropod and male anthropomorphs, DC1.

DC2: Astro's Site

DC2 is a panel of five red paintings in an alcove on the southwest corner of a granite boulder at the head of a small gully between the Turtle Head walking track and DC1. The panel of paintings is found on a smooth panel of granite, 1.5 metres across and 0.8 metres high. Although the site is on a steep slope, a flat grassy area extends 15 metres in front of the paintings.

Paintings at DC2 are not well preserved, due to their exposure to the sun, rain and wind and the use of the site by animals who rub against the paintings. Only four motifs were recorded at this site – two anthropomorphs of indeterminate gender, a lizard and a yam like figure.

DC3: Rock Ledge

The Rock Ledge Site is composed of three panels of red paintings on a rock ledge above a small waterfall on Davies Creek and a single disk engraved into the rock creek bank (Figure 5.14). Preservation is poor due to exposure to sun, water runoff and rain. Four painted lizards were recorded, two indeterminate motifs, two linear designs and a trident.

The 'engraved disk' is unlikely to be of Aboriginal origin. It is a circle with internal lines and has been engraved into the granite creek bank. Although it is only four metres from the painted art in the shelter lining the creek bank, the disk is quite different in both technique and form. The floor of the shelter forms the bank of the creek which runs through a narrow crevice between two large granite outcrops. The entire site is submerged in flood. The engraved disk is located on the edge of the granite floor and consists of a circle of 12 cm diameter with six internal lines crossing the circle (Figure 5.15). It is the only single engraving identified in the Wet Tropics during this research. The engraved disk is not recorded in the detailed report documenting the removal of graffiti at the site (Brown 2003), nor is known to QPWS rangers or custodian Willie Brim (pers comm.).

There are three ways to approach the site. When the creek level is low it is easy to climb up the southern side of the creek bank from a swimming hole, carpark and campsite managed by Queensland Parks and Wildlife approximately 100 metres downstream. It is also possible to access the site from above by a narrow rock ledge. The third access is by rock hopping from the northern side of the creek.

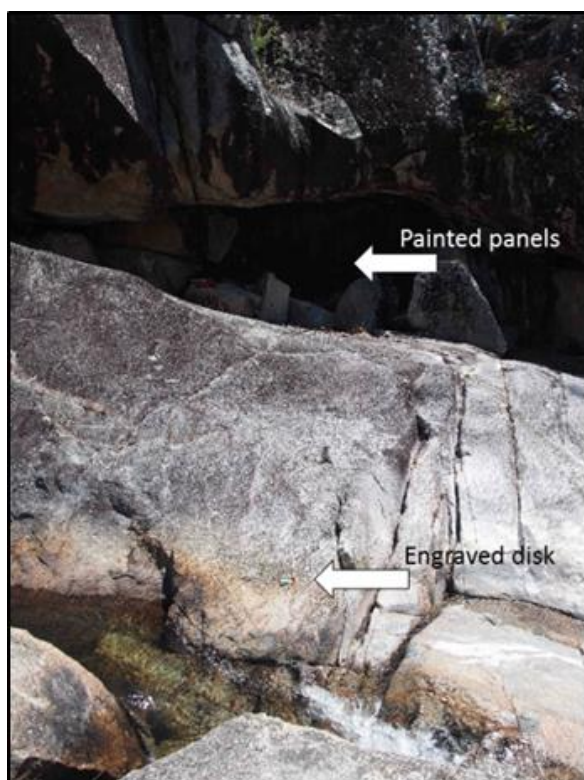


Figure 5.14 Location of engraved disk in relation to paned panels



Figure 5.15 The technique, form and placement of the engraved disk at Rock Ledge site suggests it is unlikely to be an Aboriginal engraving.

DC4: Fall's Site

Falls Site is formed by a series of large granite boulders sitting on top of each other on a steep hillslope. It is on the Davies Creek road (Figure 5.16) on the approach to Davies Creek Falls. Originally the site would have been difficult to access due to the steep slope, however the road now passes within 3 metres of the shelter making it easily accessible to visitors. Although the site is not actively promoted, it appears to receive a fair level of visitation and there is a visible foot track leading from the road into the shelter.



Figure 5.16 DC3, showing location in relation to the road.

Existing records for this site date back to 1968 (Edwards 2007:166-167) and 1974 (DATSIMA site record FM:A06). In 1968, the main group of paintings were identified as '3 human figures and a bird' with another human and a boomerang to the right. Traces of other designs were noted but indistinguishable. In 1974 the motifs were reportedly in a 'very faded condition'.

Falls Site has three panels of art in three separate chambers. The lower chamber has a panel of faded red paintings including a man and a woman on her side, next to a bird (Figure 5.17). The female image is unusual not just because of the gender but because it is drawn in profile, neither of which is recorded at any nearby sites.



Figure 5.17 Two anthromoporphs, one in profile view, with open mouthed bird above.

The two higher chambers have panels of hand prints made with thick brown paint. One set of prints are composed of four right hands, two of the large and two smaller, possibly children's hands, in a light brown clay substance (Figure 5.18). The second set of prints are all large hands, two left and two right, in a thick red paint (Figure 5.19). The paint used to make the hand prints observed at Davies Creek appears to be 'fresh' and is made from a thick mud based pigment rather than the fine ochre used for painted motifs.



Figure 5.18 The first set of hand prints are a light brown clay like substance, two adult and two children's hands.



Figure 5.19 Both sets of hand prints appear to be 'fresh' paint made with a mud based paint.

These are likely post-contact and probably quite recent additions. There are no other examples of prints in the Wet Tropics and the slurry used to create the prints appears very different to other painted motifs in either Davies Creek or elsewhere in the Wet Tropics. The hand prints were not recorded by Edwards in 1968 or 1974. Like the engraved disk at DC3, it appears that someone has chosen to make a new motif at an existing Aboriginal site. There is no information to determine whether this 'copycat art' is by Aboriginal custodians or other visitors to the national park. No management infrastructure is in place at this art site, although the proximity of the unsealed road, regular visitation and additions to the rock art mean this site should be a priority for management intervention.

Motif classification of Davies Creek rock art

Rather than a site complex, the five Davies Creek art sites are connected by their proximity to Davies Creek. DC1 is the largest site in terms of the number of motifs, which are mainly of anthropomorphs and zoomorphs. The other sites are relatively small, each with less than 10 motifs, primarily red painted images (Table 5.5). In comparison with other areas, Davies Creek has a high number of post-contact motifs – two panels of hand prints and one engraved disk. Prints and engravings are not recorded anywhere else in the Wet Tropics, and these are undoubtedly new additions, probably in the last 10 years because none are included in any previous records. The Davies Creek sites receive some level of visitation, and graffiti has been removed in the past from one site (Brown 2003). It is not clear who has made the new additions – possibly it is tourists, local non-Indigenous people or Aboriginal custodians or it could be a combination of these visitor types. The lack of data on visitors combined with an absence of visitor infrastructure at the Davies Creek shelters makes these sites especially vulnerable to visitor impacts. It is likely that there are further rock art sites in the area, particularly in the granite boulders extending into Lamb Range to the east and south. Other rock art sites have been reported, at Kaphalim Rock and near the Turtle Head track.

Table 5.5 Motif classification of Davies Creek art.

| | DC1 | DC2 | DC3 | DC4 |
|----------------------------|-----|-----|------------|------------|
| Zoomorph (16) | | | | |
| Dingo | 3 | | | |
| Kangaroo | 4 | | | |
| Lizard | 1 | 1 | 4 | |
| Bird | | | | 1 |
| Insect | 2 | | | |
| Anthro (15) | | | | |
| Male | 5 | | | 1 |
| Female | | | | 1 |
| Indeterminate | 3 | 2 | 2 | 1 |
| Material culture (8) | | | | |
| Boomerang | 3 | | | 1 |
| Sword | 1 | | | |
| Yam | 1 | 1 | | |
| Cross boomerang (walma) | 1 | | | |
| Linear (5) | | | | |
| Single line | | | 1 | |
| Multiple lines | | | 1 | |
| Arc | 1 | | | |
| Trident | 1 | | 1 | |
| Post contact (9) | | | | |
| Hand prints | | | | 8 (recent) |
| Engraved disk | | | 1 (recent) | |
| TOTAL (53) | 26 | 4 | 10 | 13 |

5.6 Mulgrave

Only one un-named site was recorded, on a granite boulder in an un-named Mulgrave River tributary which stems from the Bellenden Ker Range. Location details and photographs of the site or art are not included at the request of the Aboriginal party. Other sites in the area are known to exist but are not included here as the custodians specifically requested that no detailed

information on the sites be shared publicly. Keeping the location and description of the site off the public record is a deliberate management strategy.

The Malanbarra are a clan of the Yidinji people and the Aboriginal custodians for the area. The area is within a native title determination held jointly by Dulabed and Malanbarra Aboriginal groups. Frank Royee, senior Malanbarra representative, gave consent for the following information to be included.

Motif classification of Mulgrave rock art

A panel of red and black motifs are painted on the rear wall of this shelter. Eight distinct motifs are visible to the naked eye, and a further three discernible using DStretch (Table 5.6).

Table 5.6 Classification of Mulgrave rock art motifs

| Mulgrave | |
|--------------------|----|
| Fig (4) | |
| Anthropomorph | 3 |
| Material Culture | 1 |
| Non-fig (7) | |
| Abstract | 1 |
| Linear | 4 |
| Geometric | 1 |
| Enclosed geometric | 1 |
| Total (11) | 11 |

5.7 Wooroonooran National Park (WNP)

Both the WNP1 and WNP2 sites are shelters formed in the underside of a basalt flow. The basalt is formed by volcanic eruptions on the Atherton Tablelands between 3.4 and 1.6 million years ago. On the Palmerston, basalt flowed down the ancestral Johnstone River valley, covering the underlying granite substrate. The sites were previously recorded by Nicky Horsfall but not visited for over 20 years. Both sites are within the Mamu native title determination area. Mamu Aboriginal Corporation are the Aboriginal Party for the area, with consent native title determination (QC2013/005).

WNP1: Chris's Cave

WNP1 is a long shallow shelter formed under a basalt cliff on the south side of the Russell River. Rob Jago named the Russell River site 'Chris's Cave' when it was found by his son, Chris, during a

bushwalk in 1988. The shelter was recorded by Nicky Horsfall soon after, and a site card with a brief description is held by the Cultural Heritage Branch (Site no. FM:A97).

Russell River shelter is not actually a rock shelter or a cave but rather a shallow underhang at the base of a basalt cliff that is around 25 metres high (Figure 5.20). The floor consists of basalt rocks, only a small section of the floor (around 3 x 2 metres) is flat, where rocks have been moved to create a flat floor space. The rest of the shelter floor consists of basalt boulders, which makes this site unsuitable for any living arrangements. The site may have provided shelter from rain, particularly if coming from the southeast.

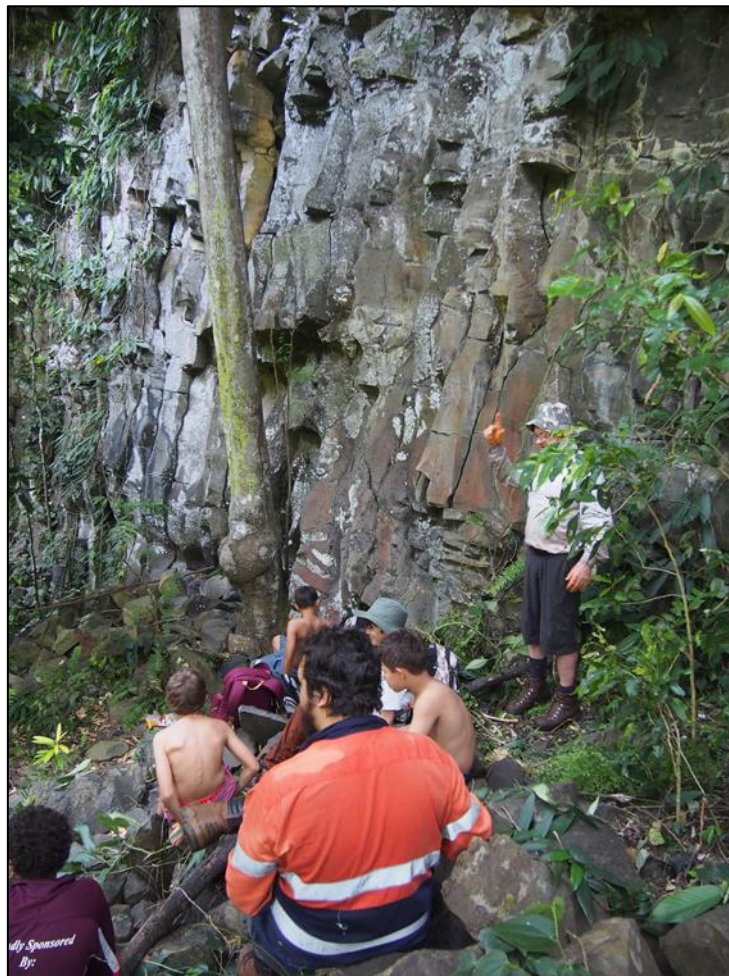


Figure 5.20 WNP1, paintings are on the cliff face behind the person standing.

The main part of the shelter is approximately 25 metres long, and faint red paint was observed on the flat smooth basalt walls at the western end. A small rock wall was constructed at the eastern end, around 50 metres from the rock paintings. It forms a U shape extending from the basalt wall to make an enclosure, approximately 3 metres long by 1 metre wide. It is unknown if this is an Aboriginal structure or constructed by someone on the Russell River gold field.

Smudges of red could be seen on smooth surfaces on the basalt wall. Although it was difficult to make out the actual shapes of the figures with the naked eye, but enhancement using DStretch provided excellent results. Waribarra custodians have requested that the images are not reprinted here.

Only four motifs could be discerned. Two colours were used at the Russell River shelter. A red figure appears to be overpainted with an orange figure in the same anthropomorphic shape, with arms and legs in a 'frog' position similar to the 'frog' paintings recorded on the North Johnstone River (Figure 5.21 and 5.22). Two other motifs are red linear designs.



Figure 5.21 'Frog' like motif before enhancement.



Figure 5.22 'Frog' motif after DStretch enhancement.

WNP2

The site is a large shelter formed at the base of a basalt cliff. The cliff is approximately 50 metres high at this point, and the shelter ceiling probably 15 metres high. It measures 30 metres long and 4 metres from the back of the cave to the dripline. This is a substantial size in comparison to other rock shelters in the rainforest, providing significant protection from the rain. Sunlight does not appear to reach the shelter, due to the dense surrounding rainforest canopy. The floor of the shelter is soft, silty soil, which appears to be accumulating over time. Numerous artefacts were

identified including grinding pebbles and sharp basalt pieces. There appears to be little disturbance from either people or animals, and the site is very rarely visited.

A network of Aboriginal walking tracks crossed through this area, linking the *Tjunga* bora ground with the river and neighbouring *bama* estates. However, today access to this site is difficult, which is the main reason it appears to have rarely been visited in recent years. Despite the shelter being less than 500 metres (as the crow flies) from a sealed road, and partly accessible by a walking track, it took nearly three hours to walk into the site due to the steep and rocky gullies and dense rainforest including stinging trees and wait-a-while vines. The group maintained contact with each other with regular calls ('whoop' sounds) to each other, but these could not be heard past around 40 metres because of the dense vegetation. The vegetation also restricted our ability to see each other, even in high visibility field gear. The shelter was above a steep ramp of fist sized rocks, approximately 50 metres high with a slope of around 40°, and below a 50 metre high basalt cliff. To illustrate the access difficulties, on our first trip to locate the site, only three of the nine people who attempted to visit the site, actually made it to the shelter.

A small amount of faint red paint could be seen in three parts of the shelter. All the paintings appear to be on underhangs – this is possibly because people chose to paint on these locations but it could also be a factor of preservation, perhaps the paint has preserved only where it is protected from the rain. Only one painting could be seen clearly. A trident or bird track, painted under the eastern end of the shelter, was quite clear with torchlight; however, on enhancement the ends of the trident were seen to extend over one metre to a patch of red paint. DStretch enhancement also identified two more motifs, a small red zoomorphic figure, possibly a bird and a red linear shape.

This site is highly significant to Mamu custodians. This was the only site visited for this study where a small fire was lit by the custodians with the aim of 'smoking' the visitors (us) to ensure our own safety from the 'Old People'. This site was considered by the custodians to hold special spiritual values, for many reasons. Firstly, it is reasonably close to a bora ground and therefore associated with the power of the men who conducted ceremony there (S. Purcell pers. comm.). Its remoteness and lack of visitation meant that this site had been relatively untouched by the effects of European settlement, and therefore the presence of Ancestors and other spiritual beings was keenly felt. Another contributing factor was the difficulty in finding the site, even once we had already visited it. On the second visit, hours were spent searching for the site before it 'revealed itself'. In March 2017, WNP2 was recorded with a 3D laser scanner (FARO 330). The intention of this was to produce a record of the site that could be viewed without being visited

physically. Since our inspection, the custodians have decided the site should not be visited. Because of its special significance to Mamu custodians, mages of this site are not included here.

Motif classification of Woornooran rock art sites

Seven motifs in total were recorded at the Woornooran art sites (Table 5.7). The Woornooran sites provide a good example of some of the challenges of recording rock art in the Wet Tropics. The sites were known by local bushwalkers, who guided me and Mamu custodians to them. Organising the field trips took some time as the timing had to be appropriate for the three parties involved. Accessing these sites was difficult, in the case of WNP2, our group maintained an average speed of 150 metres per hour, because of the need to cut through lawyer cane and small trees to make a pathway through the almost impenetrable jungle. WNP1 did not require a new track, but it still took over five hours to walk into the site, and five hours to walk out of the site. Due to the small numbers of motifs in each site, only seven motifs were added to the overall motif count.

Table 5.7 Motifs classification Woornooran National Park.

| Woornooran National Park | |
|---------------------------------|---|
| Fig (3) | |
| Zoomorph | 1 |
| Anthropomorph | 2 |
| Non-fig (4) | |
| Abstract | 1 |
| Linear | 3 |
| Total (7) | 7 |

5.8 Silver Valley (SV)

Silver Valley is a 40km long valley formed by the Dry River, on the western fringes of the Evelyn Tableland. The Dry River is a tributary of the Hebert River, which flows east into the Coral Sea at Ingham. The rock art sites are around 20 kilometres west of the rainforest margin. The sites were recorded at the invitation of Jirrbal Aboriginal custodians, represented by Wabubadda Aboriginal Corporation, who lodged a native title claim for the eastern side of the Dry River in 2014. Lodging the claim makes Jirrbal applicants the Aboriginal party under the ACHA.

SV1: Snake Cave

The most northerly rock art site is a shallow overhang eroded into the base of a high sandstone cliff face, above a waterfall that was dry at the time of our visit. The cliff face is pale yellow to

white sandstone with a shallow underhang at the base of the cliff which extends for 50-100 metres, in very poor preservation (Fig 5.23). Red images are painted inside the overhang.



Figure 5.23 Base of SV1, friable sandstone with rock art in poor state of preservation.

At the top of the sandstone cliff are two significant cultural heritage features named by Brad Go Sam. Skull Rock is a section of the cliff that appears to have two well-formed eye sockets and a skull like appearance. *Quinkan Riji* is the language name for a slight peak in the sandstone ridge. It is interpreted literally as 'Devil Mosquito', as directly under *Quinkan Riji* is said to be a place of many mosquitoes (B. Go Sam pers comm.).

The northern end of the shelter has no formal floor and a high rate of erosion. A shallow underhang has eroded into the base of the sandstone cliff, above a layer of conglomerate rock. The shelter wall is highly unstable and the art is poorly preserved. In 2013, a long 'snake' like figure, nearly five metres long, in red ochre was recorded inside this eroded underhang, along with other indeterminate red motifs.

The main panel of art at SV1 is painted on a smooth rock wall at the southern end of the site. It is a comfortable shelter with a flat sandy floor. This panel of art, also painted in red ochre, consists of rows of short parallel lines and other linear designs. All the sandstone in Site 1 is unstable, but the art in the southern part of the shelter is better preserved than the art at the more unstable northern end. The northern entrance gallery includes rows of painted lines and a pair of possible bird tracks, or trident shapes. Red is the only colour visible in SV1.

Enhancement of the main panel at SV1 revealed a painted red anthropomorph, shown in Figure 5.24 and 5.25, with clear legs, arms and head and distinctive fingers, superimposed with abstract designs, also painted in red.



Figure 5.24 and 5.25 Main panel at SV1, without enhancement (left) and enhanced with DStretch (right).

The site was revisited in 2017, at the request of the Wabubadda Aboriginal Corporation, in response to a repainting episode (Buhrich 2017 in prep.). The snake motif, previously barely visible, had been repainted and a second motif added, sometime between June 2014 and February 2017. The new snake motif, painted with a brush in red and white ochre (Figure 5.26) measures 24.2 metres in length with an average thickness of 13cm. The head of snake, facing south, measures 53cm long and 40cm wide, with white eyes and nasal holes. The new motif overpainted the old snake in some parts, but was considerably longer. Previously a head was not visible. Four painting making areas were evident on the floor of the shelter, two red and two white. Both contained powdery surfaces and it appeared that solid ochre pieces had been broken up on the adjacent rocks.

Like the Davies Creek post-contact art, it is not possible from observation to determine who created this additional motif. However, it is noted that the figure appears to have been added during negotiations over Aboriginal ownership of the area and these events may be linked.



Figure 5.26 Snake repainted in 2016 or 2017.

SV2: School Rock

The major Silver Valley rock art site is on a sandstone outlier on a small creek bed close to the Silver Valley Road. This site has high levels of visitation and an informal car park and walking track lead to the site, which can be seen from the Silver Valley Road. Art is painted on three sides of the outlier, the Bottom Gallery, Top Gallery and Southern Face. There are possibly over 100 motifs at this site, although many are faded and difficult to determine. Figures have been painted in red, orange, white and yellow ochre (e.g. Figure 5.27). Most figures are monochrome (one colour - usually red) and a small number are bi-chrome (two colours - red outlined in white, or white outlined in red). Most images are non-figurative/ abstract designs, including linear patterns, circular shapes filled with parallel lines, and star shapes. Figurative designs include a snake and lizard.



Figure 5.27 Non-figurative linear motifs at SV2.

The Bottom Gallery has a large shelter with a flat sandy floor. The rock face offers shade and protection from wind and rain and the gallery overlooks a small creek bed, which would flow in times of heavy rain. The main motif at the Bottom Gallery is a long red snake with white outline and white dots. It has been painted over older red paintings, many of which are faded and poorly defined. The floor of the shelter is flat with grey soil from the charcoal of campfires. Small pieces of artefact debris were observed, and this gallery offers good potential for archaeological excavation.

The Top Gallery is on the eastern face of the outlier. The floor is the top of a large rock slab. The Top Gallery is exposed to the sun, wind and rain. It has no noticeable overhang. The paintings, abstract designs in red, orange and yellow, are on a vertical side of the large outlier. The south side of the outlier has the third panel of art. There is a steeply sloped floor through which water would flow during rain. The wall is uneven and covered in fungal growth. Red paintings can be seen under the extensive fungal growth.

Two sites, SV1 and SV2, were recorded by Edwards (2007) in 1964. The sites, particularly SV2, are known to the local community, the rock can be viewed from Silver Valley Road and was within the boundaries of the historical town of Lancelot (now ruins). SV2 is known locally as 'School Rock', and presumably receives a small number of visitors, as it is visible from Silver Valley Road, which results in dust and other impacts. SV2 presents an excellent opportunity for archaeological investigations, as deposits are accumulating in the lower gallery, however no excavations or detailed recordings have ever been conducted.

SV3

Silver Valley 3 is a small shallow shelter on a single boulder, around 250 metres upslope of Silver Valley 3. The west facing rock face has ten red paintings including geometric and linear designs, arcs, and a single 'yam' shape. The site is exposed, with only a shallow overhang.

Motif classification of Silver Valley rock art

Silver valley rock art contains one major site with a large number of motifs in a variety of colours with smaller satellite sites with red paintings nearby. Abstract and geometric shapes are the dominant motifs, although there is a small number of reptiles depicted and seven anthropomorphs (Table 5.8). All the art sites are found along a ridge on the eastern side of the valley, and it is highly likely further rock art sites exist along this escarpment. The highly friable nature of the sandstone and conglomerate in Silver Valley has affected the preservation of the rock art.

Silver Valley is one of the few site complexes in this study where a chronology of rock art style could be possible. For example, the enhancement of SV1 identified an anthropomorph under abstract paintings. The area is also close to the boundary of two very different language groups, Dyirbal and Mbabaram, making this a possible 'zone of engagement' or 'junction site' (see Buhrich et al. 2017; Taçon 2013). The sites also offer potential to reveal significant information about the interface between Aboriginal use of the wet and dry environments in the rainforest hinterland.

Table 5.8 Motif classification at Silver Valley

| | SV 1 | SV 2 | SV 3 |
|------------------------|------|------|------|
| Zoomorph (3) | | | |
| Lizard | | 1 | |
| Snake | 1 | 1 | |
| Anthro (7) | | | |
| Male | 1 | | |
| Indeterminate | | 6 | |
| Material culture (4) | | | |
| Boomerang | | | 3 |
| Yam | | | 1 |
| Abstract (5) | | | |
| Fluid shape | | 2 | 1 |
| Panel of dots | | 2 | |
| Linear (18) | | | |
| Single line | | 3 | 1 |
| Multiple lines | | 8 | 2 |
| Row of short lines | 1 | | |
| Barred comb | | 1 | |
| arc | | 2 | |
| Geometric (14) | | | |
| Star | | 3 | |
| Oval | | 4 | 2 |
| Circle solid | | 4 | |
| herringbone | | 1 | |
| Enclosed geometric (6) | | | |
| Enclosed dots | | 1 | |
| Barred oval/circle | | 4 | |
| Concentric circles | | 1 | |
| Tracks (2) | | | |
| Bird | 1 | 1 | |
| Post contact (1) | | | |
| Snake | 1 | | |
| TOTAL (59) | 4 | 45 | 10 |

5.9 Mount Claro (MC)

Mount Claro is the southernmost site complex recorded, approximately 20kms from the rainforest boundary on the western edge of the Seaview Range in the upper catchment of the Herbert River. The sandstone outcrop rises out of the savannah between two volcanic provinces, the McBride Volcanic Province to the west and the smaller Mount Fox to the east. Three rock art sites were recorded at Mount Claro in detail in the 1970s (Brayshaw 1990) and 1990s (Gunn & Thorn 1994) and re-recorded by James Cook University archaeology students in 2013 & 2015 (Buhrich et al. 2014; Buhrich & Reepmeyer 2016). Gugu Badhun are the Aboriginal party for Mount Claro, with determined native title (QCD2012/002). Mount Claro is at the northern range of the Gugu Badhun cultural estate.

MC1

Mount Claro 1 is a shallow overhang on the northern slope of Mount Claro. The art panel is on a vertical wall at the smoother western end of the shelter. Motifs consist of nine abstract red painted motifs painted on the lower section of the shelter (Figure 5.28). Six are linear designs, two of which are infilled with vertical lines. There is one anthropomorph like figure with apparent head, arms and torso and one figure of an oval shape with tufts pointing from its top. Flakes of quartz and chert are present in the dripline of the shelter. A painted brown cyclone wire fence has been constructed around the panel of art, presumably to keep animals from rubbing against the walls and possibly to prevent visitors from getting too close to the art.

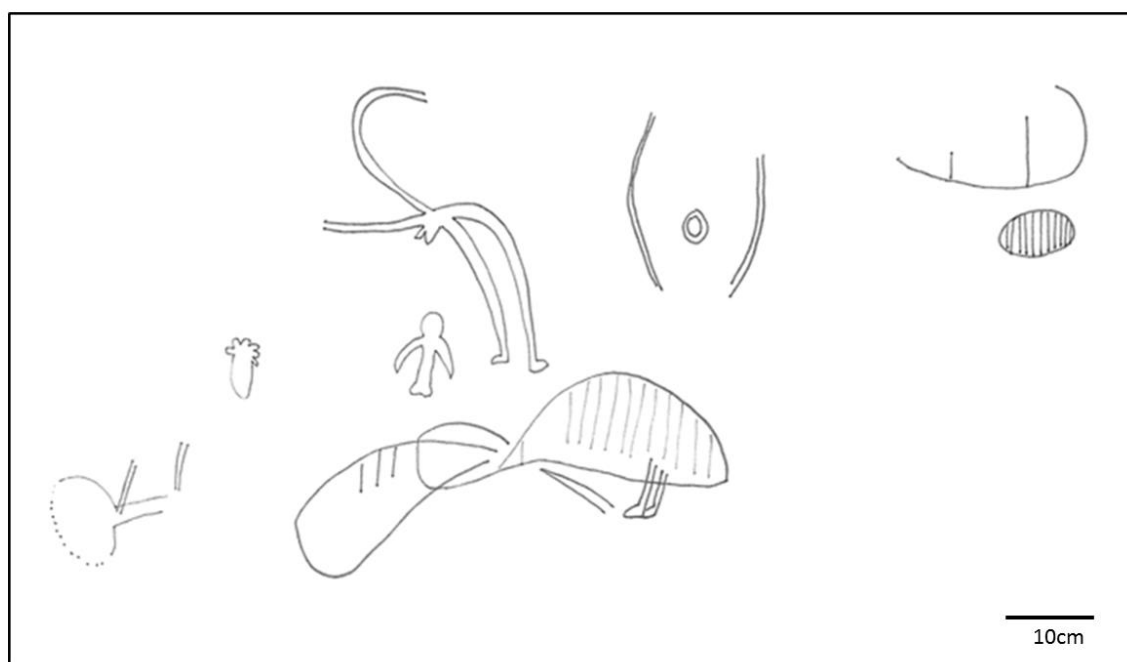


Figure 5.28 Non-figurative art at MC1.

MC2

Mount Claro 2 has the largest dimensions and greatest motif count of the three Mount Claro sites. The shelter, eroded into the cliff line faces west and offers excellent views. This is a dramatic location, facing directly west towards the McBride Volcanic Province and the neighbouring Ewamian estate. The shelter measures 12 metres wide and three metres from the back of the shelter to the dripline. It can only be accessed from the northern side, as there is a five metre drop in front of the shelter, and sheer cliff to the south. A series of pillars and crevices are eroded into the southern end, some of which are decorated.



Figure 5.29 Lizard type figure and repeated arcs at MC2.

Mount Claro 2 contains about 100 individual red and orange painted motifs and a small number of stencils. Arcs and a large 'lizard' like motif dominate the northern panel, while the motifs at the southern end are mainly stencils of weapons and hands. Motifs are mainly abstract designs although the main motif, around 1.5 metres in length, has the appearance of a head and arms with legs and a long tail like appendage (Figure 5.29). A cluster of orange oval shapes with dots enclosed have been painted over older, purple coloured stencils (Figure 5.30). In the centre of the shelter, at the rear, is the main pillar, decorated with a band of red painted around a natural waist

and vertical lines, a recurring theme in the rock art of all the Mount Claro sites, are painted at the base of the column. Some images show 'dripping', where wet paint has dripped down during application.



Figure 5.30 Superimposed stencils at MC2.

The art at Mount Claro 2 is brighter than the other Mount Claro sites, probably because the shelter offers more protection against wind and rain. There are some ferns growing in the rock crevices at the northern end, and water seepage from the ferns appears to be damaging the art panels beneath. A fence has been constructed at the front of Mount Claro 2, presumably to protect visitors from the steep drop.

MC 3

This site is a single panel of art painted at the base of a high rock. It has an overhang and the art is exposed to the rain and western sun. Weeds, particularly lantana, were observed at this site in 2013 but had either died or been removed by 2015.

There are seven groups of figures at Mount Claro 3 - primarily composed of clusters of vertical lines and shapes infilled with vertical lines (Figure 5.31). The figures are painted red abstract designs. Water flow stains under the ferns growing in the crevices of this site seemed to be damaging the art panels underneath.

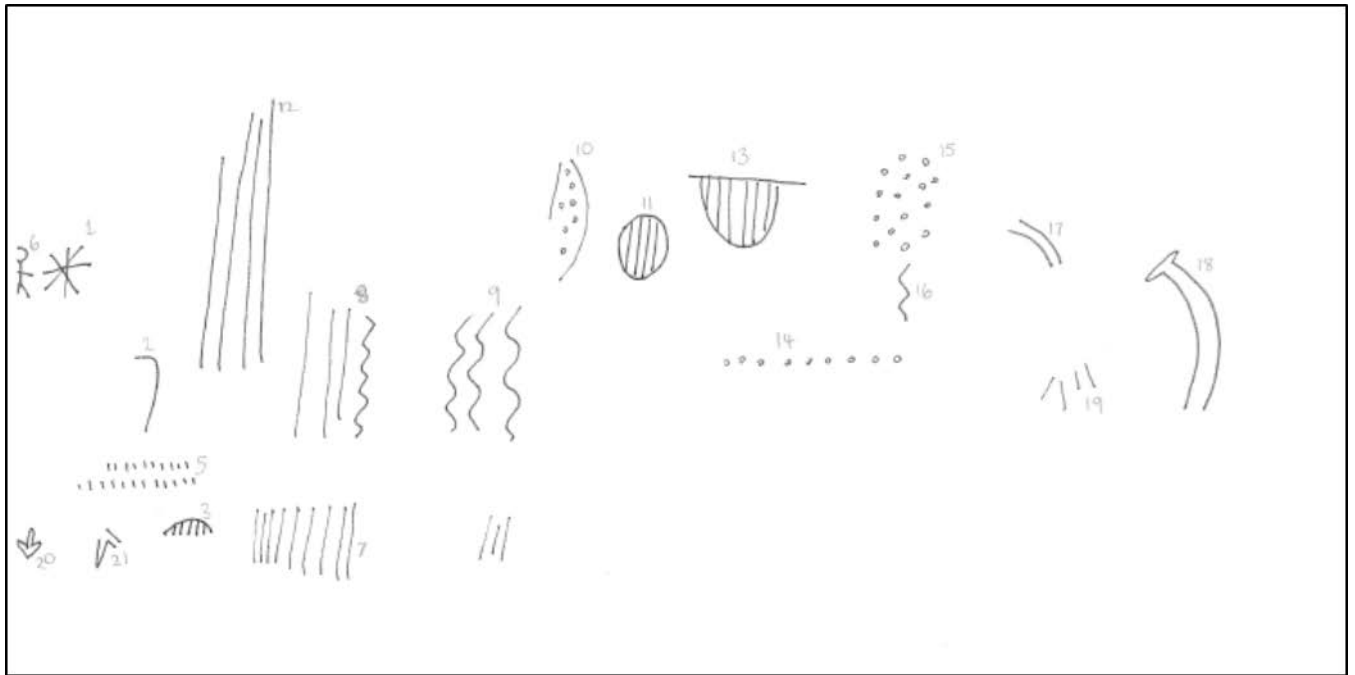


Figure 5.31 Panel of non-figurative designs at MC3 (not to scale).

Motif classification of Mount Claro rock art

One hundred and fifty-three individual motifs (pictures) were counted at the three sites, with the majority of these (122) in Mount Claro II. Table 5.9 shows the number of painted, stenciled and dry pigment motifs at each of the sites. Of the one hundred and fifty-three motifs, 143 (93%) are painted. A further 6 % (9) of the motifs are stencils of hands or boomerangs. There is one use of dry pigment – dry ochre was dragged along the wall, leaving a red line.

Table 5.9 Number of painted, stenciled and dry pigment motifs at Mount Claro sites.

| | Painted | Stencil | Dry pigment |
|--------------|---------|---------|-------------|
| Mt Claro I | 9 | 0 | 0 |
| Mt Claro II | 113 | 9 | 0 |
| Mt Claro III | 21 | 0 | 1 |
| TOTAL (153) | 143 | 9 | 1 |

Abstract and geometric shapes (non-figurative) in orange and red are the most common designs at the Mount Claro sites (Table 5.10). Small arcs are the most common motif, with 58 counted at Mount Claro 2 in red and orange. Ovals are another common motif: 14 have dot infill and another 4 have linear designs inside. Only eight paintings were figurative: six were anthropomorphs or parts of anthropomorphs and two were identified as lizards. Some of the people were only visible using enhancement, none of the anthropomorphs were very clear.

Table 5.10 Motif classification of Mount Claro rock art.

| | MC 1 | MC 2 | MC 3 |
|--|------|------|------|
| Zoomorph (2) | | | |
| Lizard like | | 2 | |
| Anthropomorph (6) | | | |
| Anthropomorph or part of anthropomorph | 1 | 4 | 1 |
| Linear (34) | | | |
| Linear design | 2 | 12 | 2 |
| U shape | | 2 | |
| Row of short vertical lines | | 3 | 1 |
| Group of long vertical lines | | 3 | 4 |
| Horizontal line | | 1 | |
| Barred comb | | 1 | 1 |
| Hook | 1 | 1 | |
| Abstract (9) | | | |
| Foot shape | 1 | | |
| Trident | | 3 | 2 |
| Row of dots | | | 2 |
| Panel of dots | | | 1 |
| Geometric (77) | | | |
| Enclosed oval with dot infill | | 14 | |
| Circle solid | | 4 | |
| Arc | | 58 | |
| Parallel arcs | 1 | | |
| Enclosed geometric (4) | | | |
| Enclosed geometric with infill | 1 | | 1 |
| Barred oval | 2 | | |
| Stencils (9) | | | |
| Adult hand | | 2 | |
| Child hand | | 3 | |
| Material culture | | 4 | |
| Unidentifiable (13) | | | |
| TOTAL (154) | 9 | 117 | 15 |

Nine stencils were recorded, all in Mt Claro 2. Four of the stencils are 'boomerangs' or parts of 'boomerangs'. Measurements show these were of four individual implements, rather than one implement stencilled four times. Five stencils are hands or part of hands (two large adults and three children's sized hands). The stencils look 'older' than many of the painted images because they are faded and the rock wall under one hand stencil has crumbled away, leaving only the fingers visible. They are also depicted in a purple or 'mulberry' colour not found elsewhere at the site. Where stencils are in superimposition they are always under painted images. Stencils appear to have been created in a separate event to the other motifs based on observations of colour and weathering.

5.10 Site clusters

Most site complexes are three to five sites within two kilometres of each other on a single watercourse. The Cairns coastal sites are the only complex that do not share a common watercourse. One complex has only one art site, the Mulgrave and Russell Rivers.

Three site complexes comprise one large site surrounded by smaller satellite sites. Mount Claro and Silver Valley each have one main site with between forty-six and one hundred and nineteen motifs in three to four colours with two satellite sites that contain much smaller numbers of paintings only in red. Melody Rocks and Bare Hill each have two major galleries of over forty motifs and two smaller satellite galleries with only red paintings. This pattern, of one or two larger galleries with larger numbers of motifs in multiple colours, surrounded by smaller galleries of only red figurative paintings, is also seen on the Russell River with Jiyer Cave being the major gallery (R. Jago pers comm.). Sites on the coast, at Cairns and on the Mulgrave River do not appear to follow this pattern.

5.11 Motifs per site

Wet Tropics art sites tend to be small and sparse. The average number of motifs at any one site is twenty-one, although the largest has 119 motifs (Mount Claro II) and the smallest contain only two motifs (BH3 and YRA1) (Table 5.11). The large motif count at Mount Claro II is unusual for sites in the Wet Tropics, and this is partly accounted for by fifty repetitions of small 'arcs'. If Mount Claro II was excluded from the overall count the mean number of motifs at Wet Tropics sites would be just sixteen.

Table 5.11 Maximum, minimum and mean number of motifs per site in each complex. Note the unusually high number of motifs at one Mount Claro site and the overall small average number of motifs at each site complex.

| | Maximum | Minimum | Mean |
|-----------------------|---------|---------|------|
| Cairns Coastal | 3 | 2 | 2.5 |
| Davies Creek | 31 | 5 | 12.5 |
| Bare Hill | 50 | 2 | 31 |
| Silver Valley | 46 | 5 | 19 |
| Mount Claro | 119 | 9 | 50 |
| Melody Rocks | 48 | 9 | 22 |
| Mulgrave | 11 | 11 | 11 |
| Wooroonooran | 4 | 3 | 4 |
| Average | 44 | 6 | 21 |

5.12 Geological substrate

There does not appear to be a significant pattern between geology and rock art, with painting found in four different geological substrates. Overall, there is a relative lack of suitable shelters for painting in the Wet Tropics, and all suitable rock substrates appear to have been used. Granite is the most common form of rock shelters in the Wet Tropics, and correspondingly most of the recorded rock art sites are found on this rock type (Figure 5.31). It is likely that people used the shelters available to them in different parts of the Wet Tropics and did not seek out specific geological formations to paint.

Sandstone outcrops are relatively rare in the Wet Tropics. Only five rock art sites were recorded in sandstone. Although the number of sandstone shelters is relatively low, the number of motifs at sandstone sites in the Wet Tropics is nearly double that of other substrates (Figures 5.32). While granite and limestone sites averaged 21 or 22 motifs per site, sandstone sites had an average of 42 motifs. Conversely, basalt shelters held very small numbers of rock art motifs. This is possibly a factor of preservation. Rock art on sandstone preserves relatively well and therefore the art could reflect a longer time. Certainly, the small number of motifs observed on basalt shelters appeared to be highly exposed and poorly preserved.

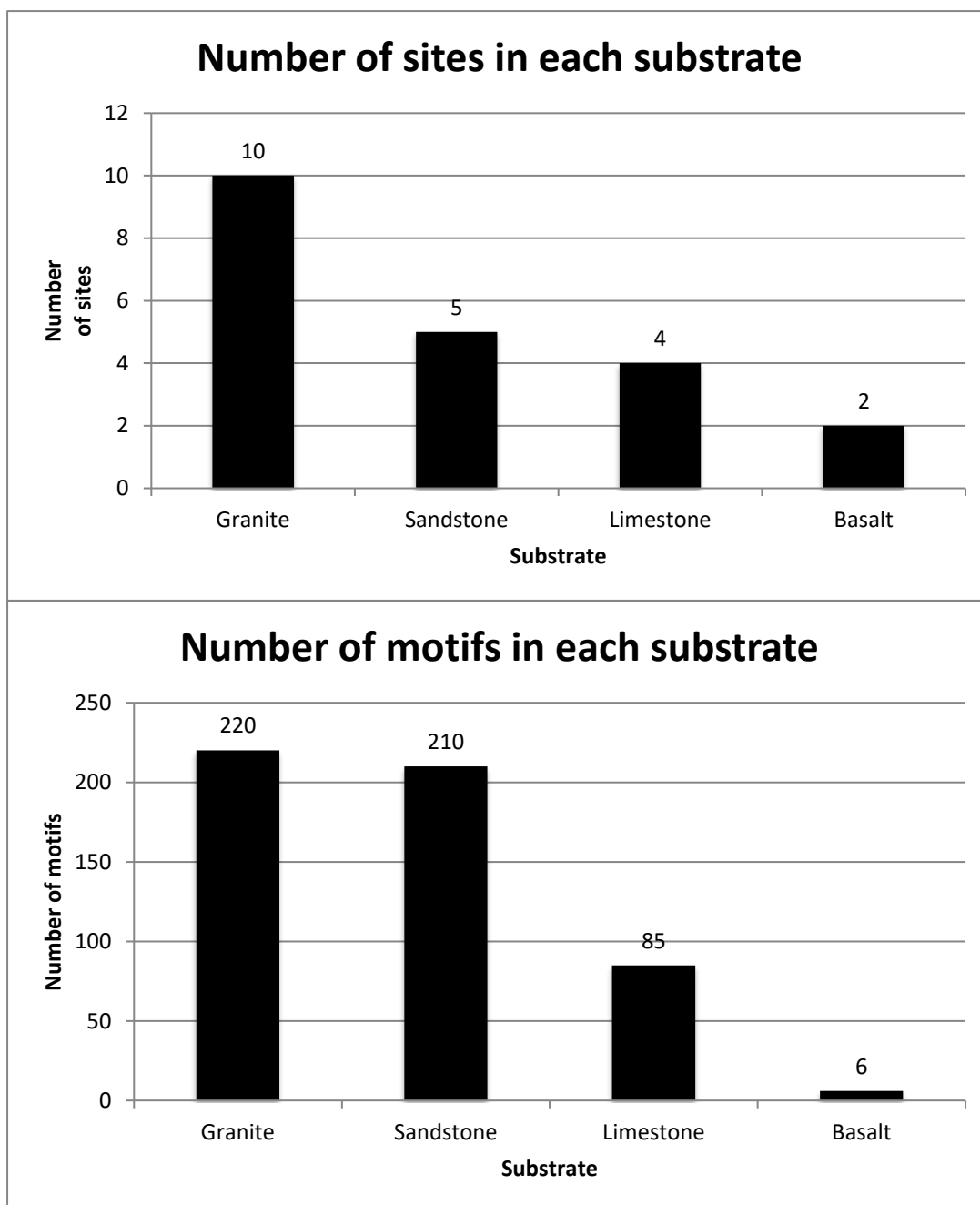


Figure 5.32 Number of sites and motifs in different geological substrates. Note the comparatively large number of motifs in sandstone sites.

5.13 Technique

Painted motifs dominate the rock art assemblage in the art sites of the Wet Tropics. Four hundred and eighty-eight out of a total of five hundred and seven motifs (96.3%) are painted. Only nineteen motifs were not painted, three of which are most likely post-contact (see below). Every site is dominated by painted motifs. The small number of stencils, cupules and single dry pigment sketches are all found in western sites and only painted motifs are found at coastal sites, excluding the post-contact prints and engraving recorded at Davies Creek (Figure 5.33). Painting is the only

pre-contact technique recorded at coastal Wet Tropics sites and is the dominant technique at western rock art sites.

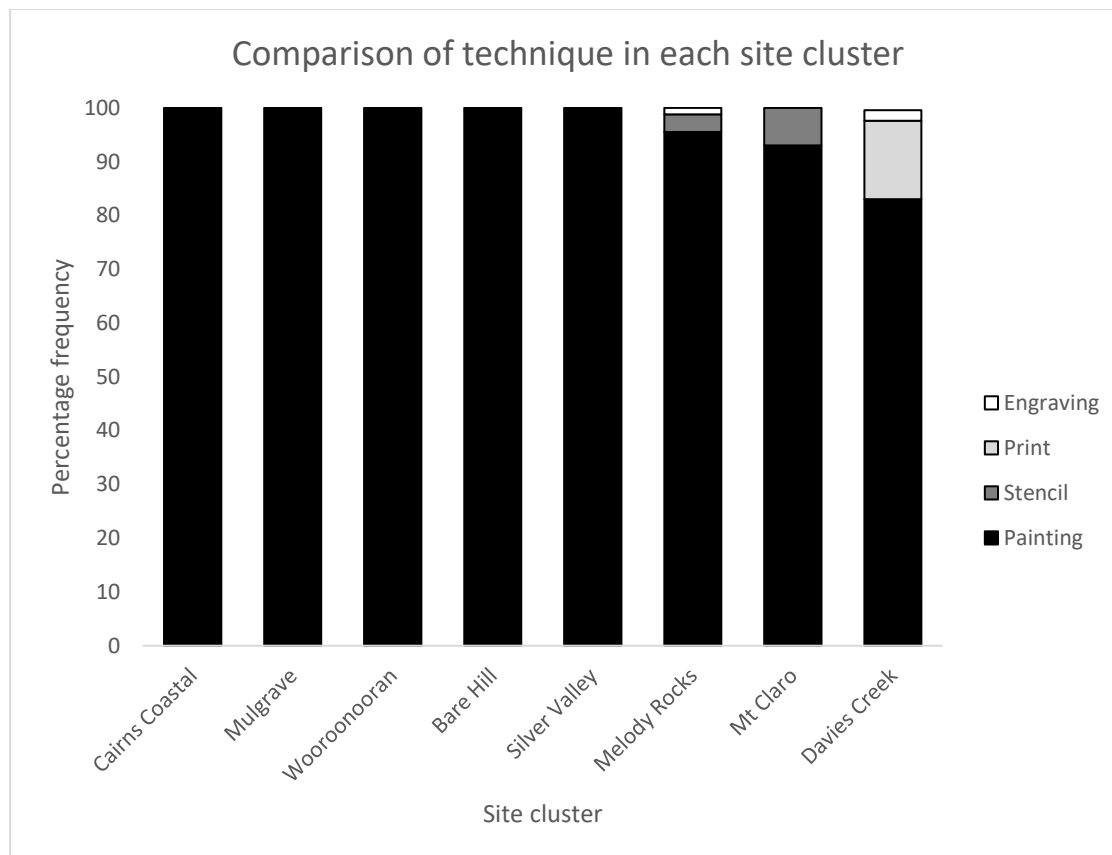


Figure 5.33 Technique used at each site complex.

Stencils are rare in the Wet Tropics, they are recorded at only two site clusters – Mount Claro and Melody Rocks. Mount Claro stencils include a small number of hand stencils and four boomerangs.

Three white hand stencils were recorded at the Melody Rocks site complex. A large white hand stencil is one of nine motifs at MR2. The remaining motifs are paintings of five large male anthropomorphs, linear designs and a single oval shape. The hand stencil appears to be part of a more recent phase of painting activity at the site, based on its fresh appearance. Two of the twenty motifs at MR4 are hand stencils. Both are in white and very faded and under painted designs. Although rare, stencils at Melody Rocks appear to have been part of older and more recent painting activity.

Two clusters of cupules were recorded at the entrance to MR4, part of the limestone formation at Melody Rocks. One is a cluster of three to four shallow pits on an exposed overhang of the cave, while the other is a cluster of twenty to twenty-one pits inside the dripline on the same vertical rock face. All the cupules are highly weathered with a deep patina. The larger cluster is

overpainted with faint red motifs. A single dry pigment sketch, consisting of an abstract linear design superimposed over a wet pigment painting, was found at Mt Claro 3.

A single circular design was found cut into the granite riverbed at DC3. The form and location of the engraved disk suggests it is not of Aboriginal origin. All the painted designs at this site are in clusters on walls under the overhang, while the engraved motif is on the floor of the granite boulder that makes up the floor of the creek and would be under water in medium to heavy flows. Two sets of four hand prints were recorded at Falls Site, Davies Creek. A number of attributes suggest the hand prints are post contact although there is a possibility they were made by Aboriginal custodians as a revival of cultural practices.

5.14 Motif categories of painted forms

Three levels of form were used to categorise motifs.

Level 1: Figurative, non-figurative and tracks

Overall, two hundred and two motifs were identified as figurative and four hundred and seventeen were identified as non-figurative. Tracks were absent from the corpus of Wet Tropics art recorded for this project and stencils were not included in the motif category analysis. There was a general pattern of eastern sites having a lower ratio of non-figurative designs compared to the western sites (Figure 5.34). In the eastern sites, 74.9% of all motifs could be identified as figurative, while 85.5% of western motifs were non-figurative. This significant difference is examined in the following chapter.

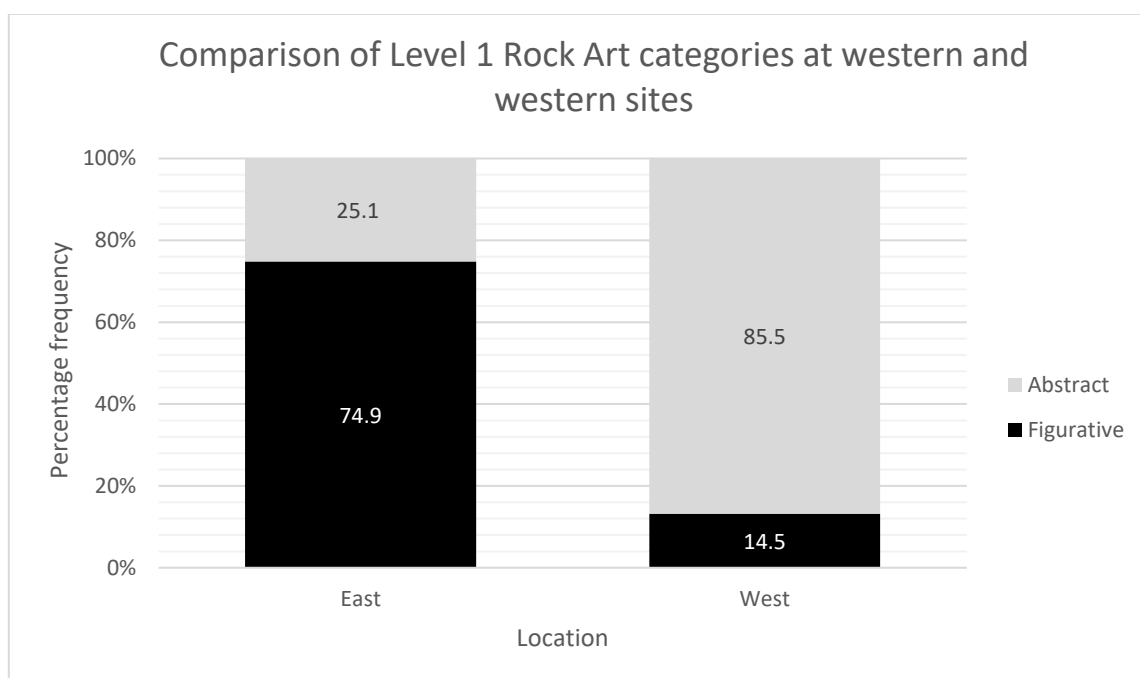


Figure 5.34 Comparison of form east and west.

Level 2: Distinguishable motifs and patterns

Anthropomorphs and zoomorphs dominate figurative motifs across the painted sample, with over half of all identifiable motifs anthropomorphic and more than one-third zoomorphic (Figure 5.35). Anthropomorphs and zoomorphs are recorded at every site cluster in both east and west sites. A small number of 'yam like' motifs are recorded at Silver Valley, Mt Claro and Davies Creek. At least one item of material culture is painted at each of the eastern sites, excluding Woorenoonoran, but not in any of the western sites.

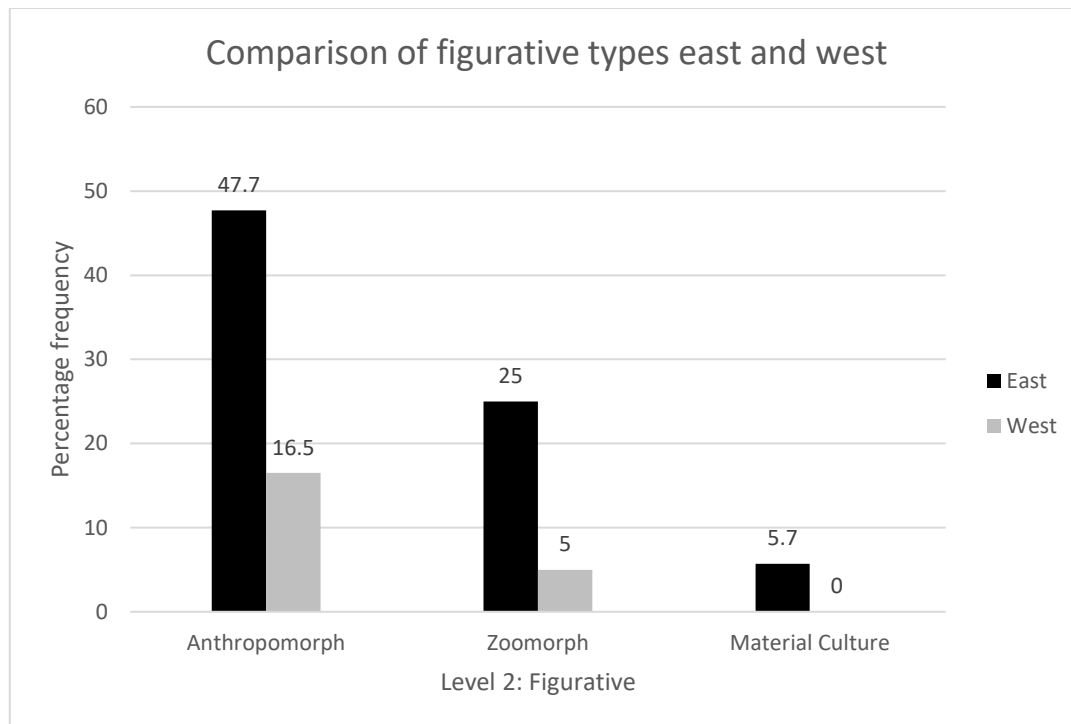


Figure 5.35 Comparison of Level 2 figurative motifs east and west.

Level 2 abstract and geometric motifs dominate at western sites (Figure 5.36). Unenclosed geometric are the largest category, making up over half of the all abstract and geometric motifs, compared to 6.4% at eastern sites. Nearly twenty percent of Level 2 non-figurative are abstract forms in western sites, compared to just two percent in eastern sites. There are three times as many unenclosed geometric motifs in westerns sites than in eastern sites.

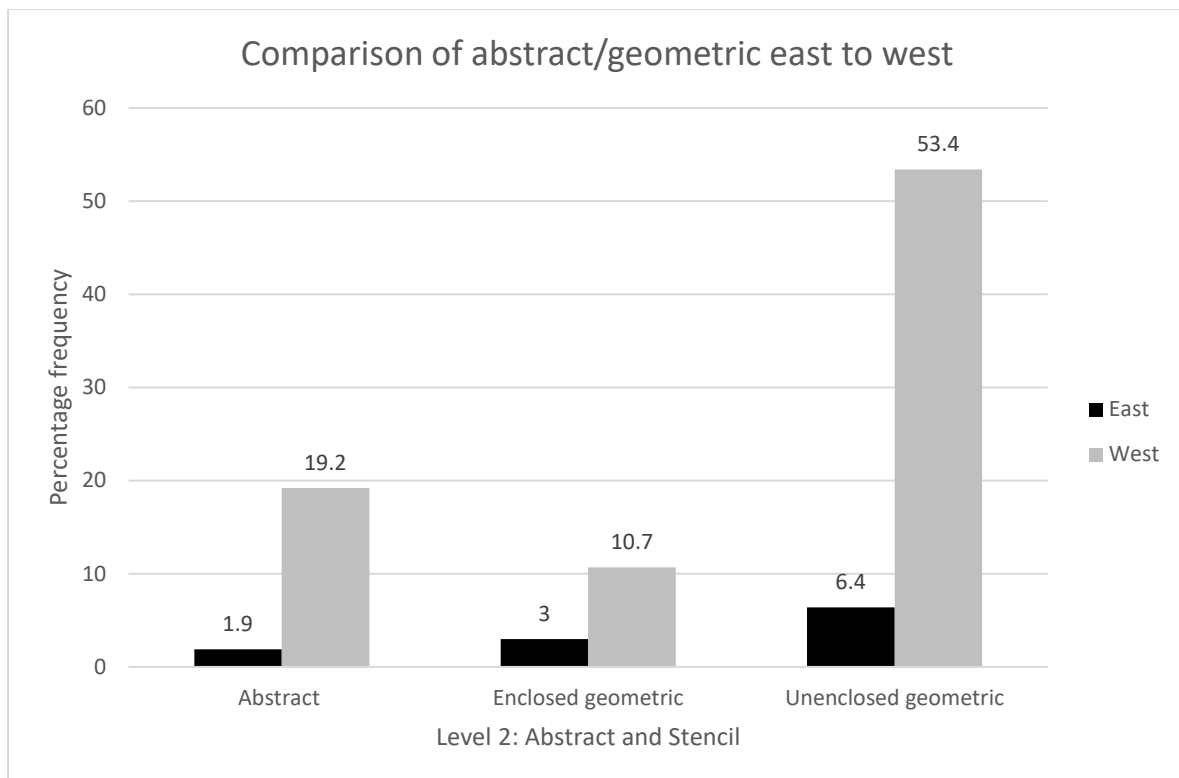


Figure 5.36 Comparison of Level 2 abstract and geometric motif in eastern and western sites.

Level 3: Individual motif patterns

Wet Tropics rock art is characterised by simple figurative and non-figurative designs, therefore Level 3 categories were relatively simple. Anthropomorphs were classified by gender, zoomorphs by animal type and material culture by object. Non-figurative Level 3 motifs were classified into arcs, linear designs, tridents, star shapes, dots and ovals and forms. Only three forms are not repeated, a herringbone, sun and a footshape.

Anthropomorphs

Two thirds of the anthropomorphs are identified as male and a further quarter have no gender or gender is not clear (Figure 5.37). Only 5% of the sample can be identified as female and one image is a conjoined (copulating) couple, presumably a male and a female. Most of the male anthropomorphs (thirty-nine out of forty-four) are from the Bare Hill site complex. Among all site complexes male anthropomorphs dominate while females are rare. There is minor variation in anthropomorphs in the study area. Unlike those described by Cole (1992) and Maynard (1976) at Laura, anthropomorphs depicted in the Wet Tropics have no headdresses, are not placed into contorted positions and neither do they appear to incorporate elements of zoomorphs. The only

decorative element is the presence of horizontal bands across the 'chest' of male anthropomorphs at two sites, MR2 and BH5 and one figure with a 'necklace' and 'belt' at MR2.

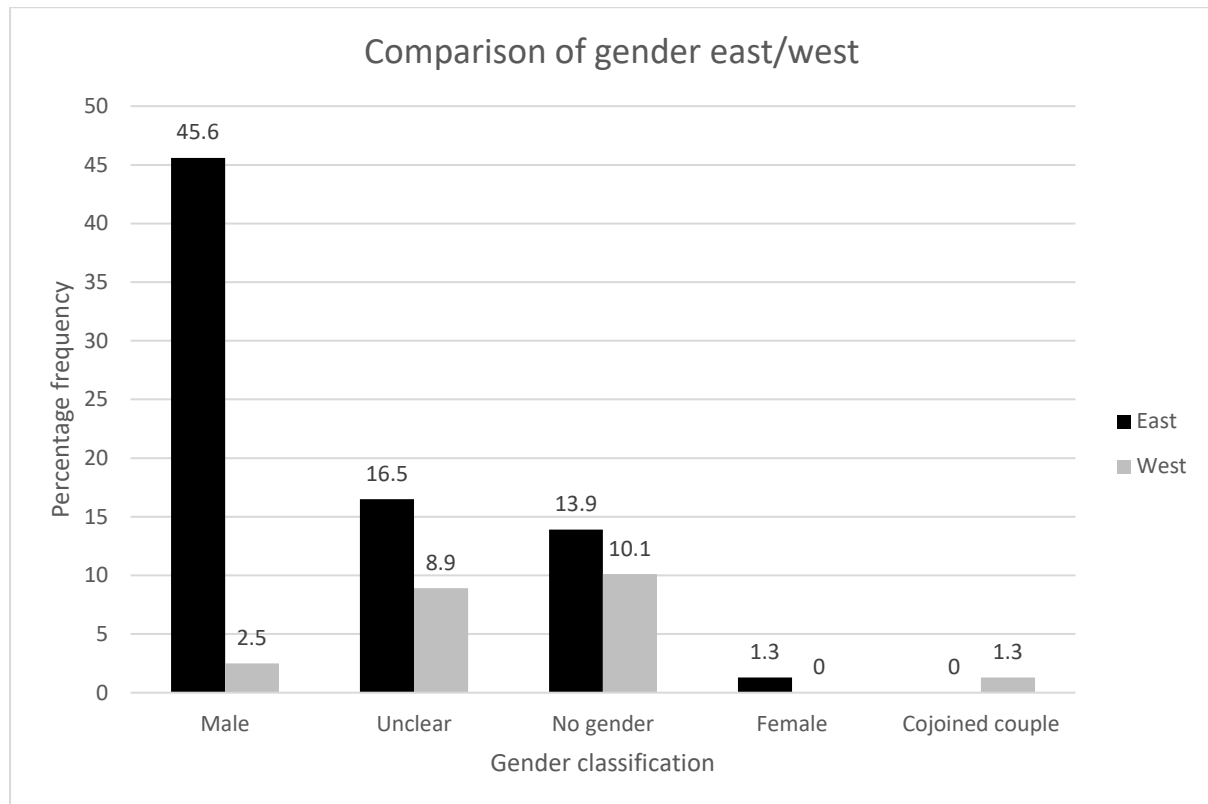


Figure 5.37 Comparison of gender in eastern and western sites.

Zoomorphs

Zoomorphs are the most diverse motif type in the study area and were recorded at six of the eight site clusters. The Bare Hill and Davies Creek sites had the largest diversity and highest count of zoomorphs, while only small numbers of zoomorphs were recorded at Silver Valley, Mount Claro, Melody Rocks and the Cairns coastal sites. No zoomorphs were recorded at either the Mulgrave or Wooroonooran site complexes. Nine categories of zoomorphs were identified: macropod, cassowary, eel, four-legged animal (includes dingo), bird, possum, echidna, snake and lizard. Seven of the nine zoomorph motifs are repeated, suggesting the selection of animals is not random. No post-contact animals were recorded.

Patterns in zoomorph distribution were identified between western and eastern sites. Snakes and lizards are more common in western sites while macropods, cassowary, eel, four legged indeterminate zoomorphs, unspecified birds and possum are only depicted in eastern sites (Figure 5.38). The Bare Hill sites hold every zoomorph category except the echidna, which is only depicted once, at Melody Rocks.

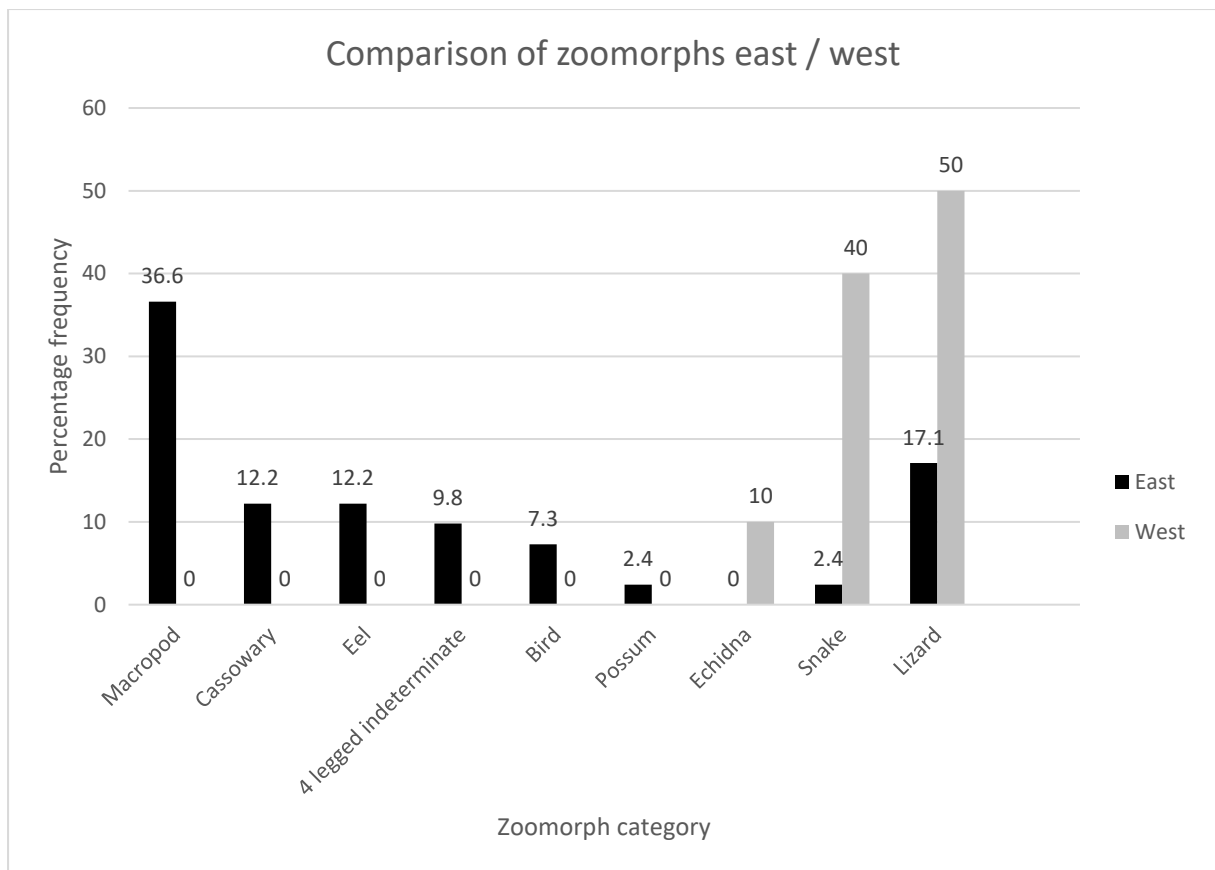


Figure 5.38 Comparison of zoomorph motifs at east and west rock art sites.

Shields, clap sticks, swords and boomerangs

Few examples of material culture were identified in Wet Tropics rock art. Where material culture was identified, it was often in association with other motifs. For example, at BH5 a cassowary is depicted adjacent to a shield with a rectangular design, both are painted in red with white outline (Figure 5.38). Also at BH5, a pair of lines, possibly clap sticks are painted in association with a macropod who appears to be holding them in its front paws. At BH2 and BH5 spears are clearly lodged into the back of two macropods, the only two possible hunting scenes depicted in the sample. Of two motifs depicted at YRA1, one is a boomerang, the other a four-legged zoomorph, presumably a dingo, painted in the same red and similar dimensions. Three possible depictions of the wooden swords, which were used together with the decorated shields in *pruns*, were observed at DC1 and BH5. All of the depictions of material culture in the Wet Tropics rock are from sites in the Cairns region.

Arcs

Arcs are the most numerous and widespread motif, with 72 arcs recorded in total, 58 of these at one site alone (Mt Claro 2). Arcs are recorded at all the six site complexes, except the Mulgrave River.

Linear designs

Linear designs are the next most numerous motif form, with thirty-six linear designs in all site complexes except Davies Creek and Bare Hill. The majority of all linear designs are recorded at Silver Valley, where they are the primary motif type, and at Mount Claro.

Tridents

Fourteen tridents are recorded at four site complexes.

Star shapes, dots and ovals

Star shapes are another widespread motif present at five site complexes, usually only in single examples.

Dots, ovals and ovals with linear infill are found in four of the site complexes.

Motifs not repeated

Three single motif types that are not repeated anywhere within the sample, a 'herringbone' shape at Silver Valley, 'sun' at Bare Hill and 'footshape' at Mount Claro.

5.15 Colour

Red motifs are present at every site, orange and white are found at five and seven sites respectively, black is at two sites and yellow at two sites. Red is the dominant colour overall, as illustrated in Figure 5.39. Over 75% of all motifs are red, 13% are orange, 6% white and yellow and black are used rarely. 'Negative' colour is only seen at BH5.

In addition to red, half of all site complexes use orange and/or white (Bare Hill, Mount Claro, Melody Rocks, Russell River south and Silver Valley). Black is found at three site complexes (Bare Hill, Melody Rocks, Mulgrave) each of which has only one black motif. Yellow is only used at Melody Rocks. Sites with more than two colours tend to be the largest site in a complex, such as BH1, SV2 and MC2, with smaller satellite sites with only red motifs (Bare Hill is an exception).

Geological substrate does not appear to influence the use or preservation of colour as polychrome sites are located in granite, sandstone and limestone. It is possible that the high humidity or denser vegetation on the eastern side of the Great Divide contributes to loss of colours other than red. However, if the high rate of red motifs was only due to preservation factors it would be

expected that at least traces of other colours would exist. There is no evidence of bi-chrome or polychrome motifs at many of the eastern sites, suggesting red was a favoured colour.

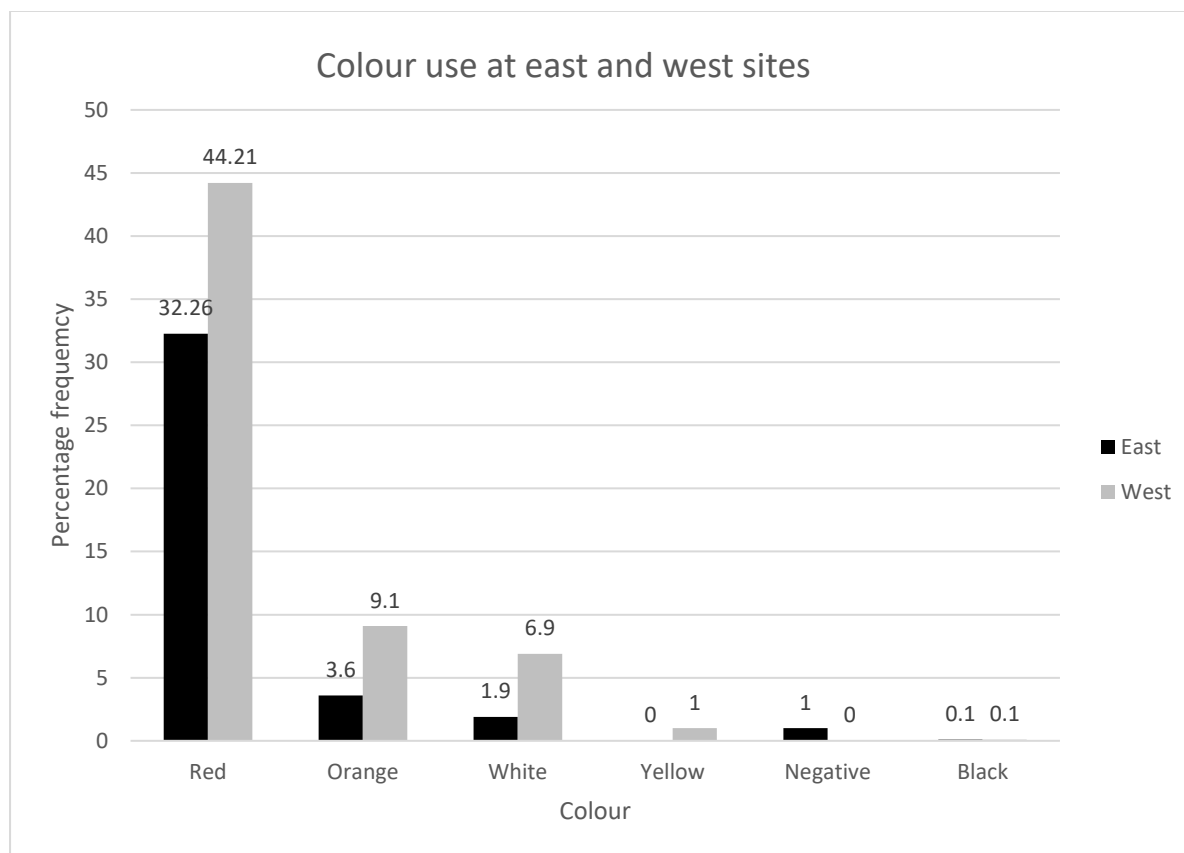


Figure 5.39 Colour ratio at all sites; red, orange and white make up 97% of all motifs.

Polychrome and bichrome paintings are rare. Only thirty-seven motifs are painted in more than one colour, which is 7% of the total motif count. Thirty-one motifs are bi-chrome (painted in more than two colours) and five additional images are in red with a second colour that has faded away leaving a negative impression. Only one polychrome motif was recorded. All the bi-chrome/polychrome motifs are at three site complexes – Bare Hill (three motifs and the five with negative colour), Silver Valley (thirteen motifs) and Melody Rocks (fourteen motifs).

Nearly three quarters of all bi-chrome motifs are predominantly red with white embellishment (twenty three out of thirty-one). Three motifs are white with red embellishment and there are single motifs in equal red and white, orange with red outline, yellow with white outline, red with clay like infill and red with red and white embellishment. Five motifs are red with a negative colour. The single polychrome motif is red with yellow and white stripes and is at Melody Rocks.

There are equal numbers of figurative and non-figurative forms portrayed in more than one colour, with fourteen abstract and twelve figurative. Seven of the bi-chrome anthropomorphs are male. Another figure is of a human foot, the rest of the figure cannot be determined and another

figure is of a copulating couple, presumably a man and woman. Three bi-chrome motifs are zoomorphs – a crocodile/lizard, cassowary and snake and one, a possum, is polychrome. There appears to be a deliberate use of a second colour to illustrate parallel lines on the ‘chests’ of male figures, these make up nearly 20% of the sample of bi-chrome/polychrome art and are all from two sites, BH5 and MR2.

5.16 Superimposition

Red is the most common superimposed colour, both under and over other colours. This is unsurprising considering over three quarters of all motifs are red (Figure 5.40). There is a tendency for white motifs to be found under other colours, but this is only based on a small sample of white motifs. Orange is only ever found over other colours, never under, and this pattern is seen at three sites. Stencils at MC2, which appear a ‘mulberry’ colour, are found under red paintings. Eight of the 34 superimposed bi-chrome motifs are over other motifs, and one is under.

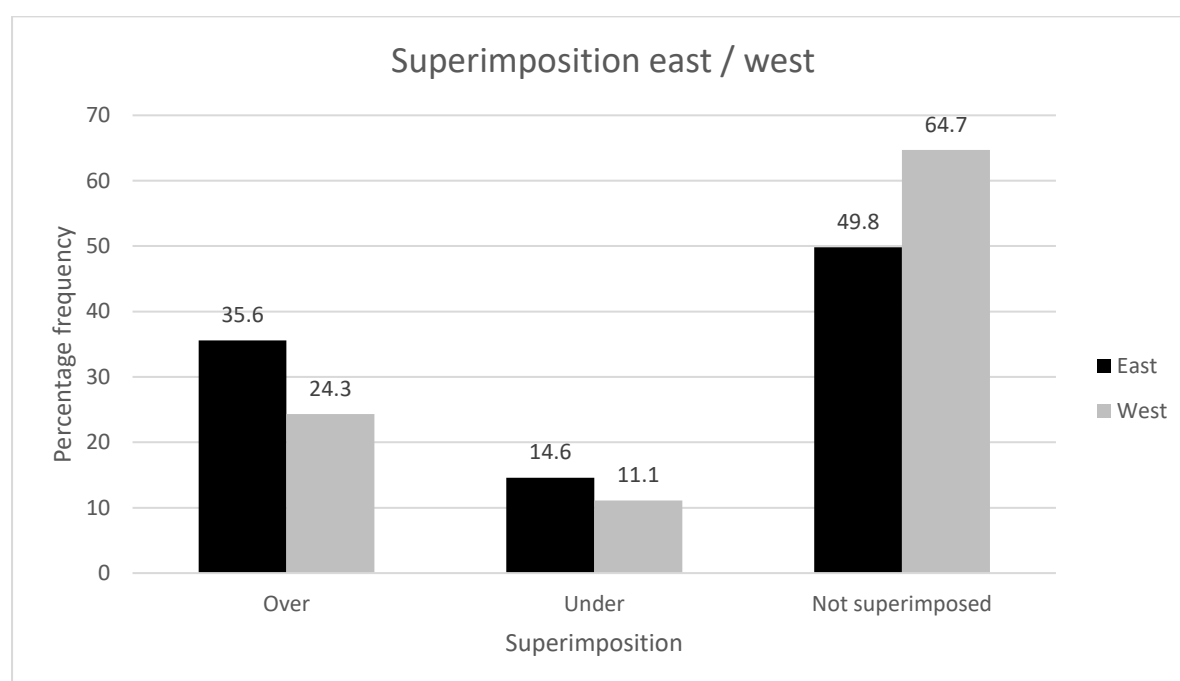


Figure 5.40 Pattern of colour distribution, red is both under and over other images, white tends to be under, orange is always over and mulberry is always under other motifs, however this is a very small sample from which to draw conclusions.

Overall there is no clear pattern of colour superimposition that can be used to determine changes in style through time, however there are a couple of interesting things to note. In Laura, white is generally associated with later phases of rock art (Cole 1998), although in the Wet Tropics there is a tendency for white to be under rather than over other colours. Mulberry colour is always under other colours, and was only used for stencils, suggesting stencil art is amongst the oldest technique used in this area. Orange is always over other colours, which may mean it was used in

recent phases of art, but could also be a factor of preservation. Bi-chrome motifs are never under other motifs and are probably relatively recent. The sample, however, is too small to build any significant models of change in colour use through time.

Generally, where superimposition occurs, there is a pattern of non-figurative motifs being under other motifs, and figurative motifs being over other motifs (Figure 5.41). As mentioned earlier, stencils are always under paintings. A single painting is over the one set of cupules at Melody Rocks. Over fifty small arcs are painted at MC2 and these are always over other motifs and may represent a single painting event. It is tempting to conclude that stencils and cupules are part of an older style of rock art but the sample size is too small to draw significant conclusions based on superimposition.

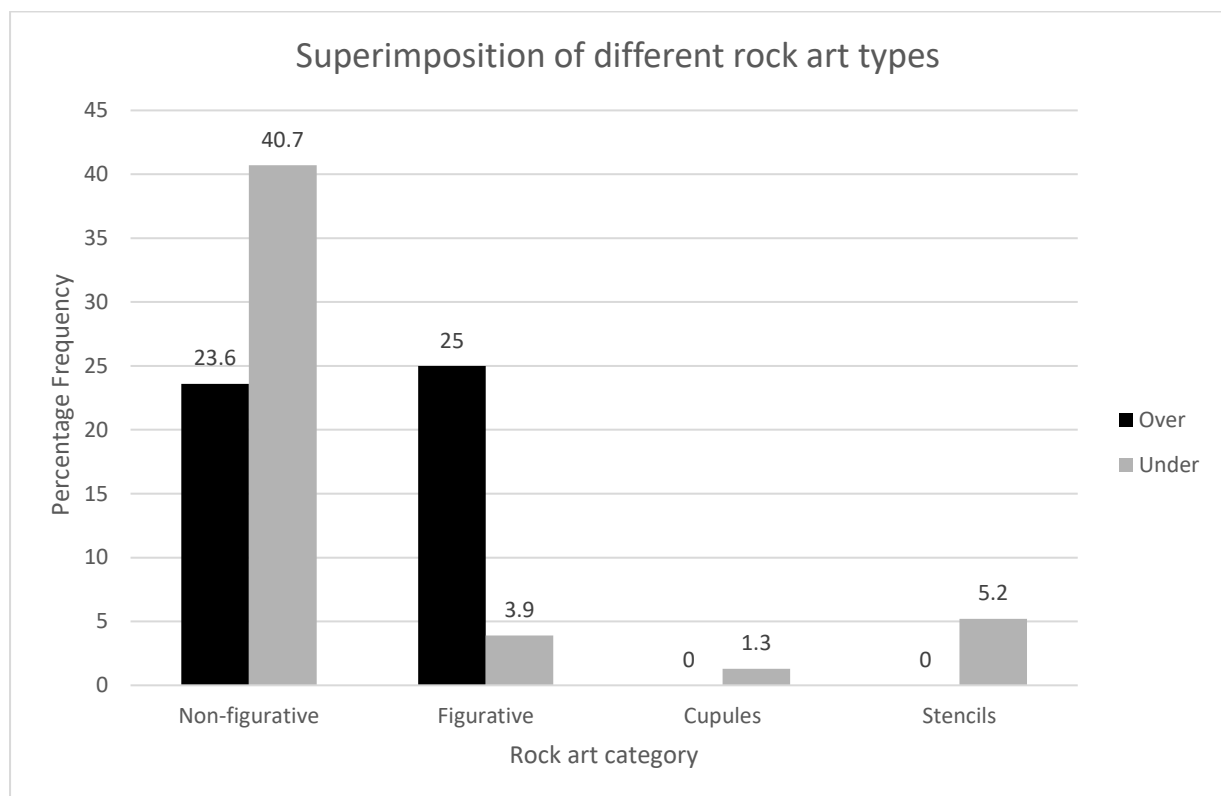


Figure 5.41 Superimposition of form and technique, although note the sample size is small (total number = 76).

Attributes of Wet Tropics rock art

The research identified major differences between eastern and western Wet Tropics rock art. The eastern side features figurative art including anthropomorphs and zoomorphs, while on the western side, abstract and geometric motifs are dominant. Painting is the dominant technique across the whole of the Wet Tropics, with only a small number of stencils and cupules recorded on the southwest and northwest margins. Red is the dominant colour at all the sites, but orange, white, yellow, mulberry and black are also found. Sites are typically found in a cluster, with one

main site of up to 40 motifs in three or four colours, with smaller satellite sites with paintings in red only.

Preservation is generally poor, particularly on basalt and granite substrates and where the rock face is exposed to rain. The constant wetting and drying cycle seems to be the main factor affecting the preservation of the art. Although superimposition is common in the larger rock art galleries, poor preservation makes it difficult to determine form in the lower layers. The western sites offer some potential for a chronological analysis, particularly at Mount Claro where there appears an older layer of mulberry coloured stencils. Fungal growth is obscuring eastern Wet Tropics rock art. Black fungus at the Bare Hill rock art sites has grown over motifs at some of the sites. The 'negative' impressions at BH5, where black fungus has grown around a motif but not over, it, even after the paint has disappeared, is an example of the unique factors affecting Wet Tropics rock art.

The rock art sites and motifs continue to be highly significant components of a living cultural landscape. In some cases, the site are important story places with representations of culture heroes. Specific motifs, such as the 'Kennedy character' and rows of short vertical lines, are repeated and found both inside and outside the Wet Tropics.

There appears to be deliberate placement of both the sites and motifs, to maximize or possibly control the sensory experience, in at least some cases. Placement of art in the dark zone or under ledges, such as at Melody Rocks, suggests a theatrical or ritual element to the viewing of the art. At Bare Hill, the sites and motifs increasingly relate to the ceremonial landscape as they approach the escarpment, with the highest site interpreted by custodians as an initiation place. The main Mount Claro site, perched on a sandstone cliff on the western edge of the Gugu Badhun estate, provides sweeping views across the western plains to neighbouring estates. These theatrical elements are important elements in the way the people interact with the sites and motifs and are discussed in Chapter 7.

6 Dendroglyphs

In the previous chapter, patterns in rock art sites and motifs were described and analysed, identifying a difference in motifs used in the eastern and western sides of the Wet Tropics. Far less information exists on the location and nature of dendroglyphs than the rock art. In fact, very few people are aware that the Wet Tropics holds a body of these unusual and rare cultural assets. In most cases, the dendroglyph sites are extremely challenging to access and the carvings themselves sometimes difficult to identify.

If visual expression reflects social identity, it follows that there might be similar patterns in motif categories of rock art and dendroglyphs in the same geographical area. However, this does not appear to be the case. Despite dendroglyphs only being found in the eastern part of the Wet Tropics, motifs are usually abstract, like western Wet Tropics style rock art. It seems that as forms of visual expression, the rock art and the dendroglyphs were communicating different things. Discussions with Aboriginal custodians revealed that despite having little physical contact with the carvings, the dendroglyph motifs and sites are recognised by Aboriginal people as story places, clan symbols and places of special cultural significance.

6.1 The sample

The dendroglyph sample consisted of 20 carved trees at 13 sites. In total, 38 individual dendroglyph motifs were recorded, which includes both carvings recorded by me, and those recorded by Grimwade (1990). Five dendroglyph sites were recorded as part of this research, three of which had previously been recorded (Grimwade 1990). The sample extends across five Aboriginal estates, within three language areas, Yalanji, Dyirbal and Yidin (Table 6.1). Six interviews were conducted with male and female senior custodians. Most of the dendroglyphs are contained within the Dyirbal speaking Mamu and Jirrbal estates.

Table 6.1 Wet Tropics dendroglyphs recorded for this study.

| Dendroglyph site | Aboriginal party | Language group |
|--------------------------|------------------|----------------|
| Mount Windsor | Western Yalanji | Yalanji |
| Freshwater Creek carving | Gimuy Yidinji | Yidin |
| Koombooloomba | Jirrbal | Dyirbal |
| O'Leary Road | Jirrbal | Dyirbal |
| Charappa | Mamu | Dyirbal |
| South Johnstone | Mamu | Dyirbal |

6.2 Mount Windsor

Mount Windsor is the northern most tableland in the Wet Tropics, and holds the headwaters of the eastern flowing Daintree River and the western flowing Mitchell River. It is within the Yalanji speaking estate, and Western Yalanji custodians gave permission for this work to be conducted.

The Mount Windsor dendroglyph was found by Steve Kitchener, working as a chainman for the Queensland Forestry Service in 1979 or 1980 (S. Kitchener pers. comm.). At the time, Mr Kitchener was part of a team marking an access track across Mount Windsor to Adeline Creek. Like other parts of the Wet Tropics, logging and other tracks often followed Aboriginal walking tracks along ridges and other topographic features. The Aboriginal walking tracks are sites themselves and connected campsites, resources areas and other places Aboriginal people visited. Unconfirmed reports suggest that this was not the only carved tree found on Mount Windsor during logging and mining activities. To preserve the dendroglyph, an informal preservation zone of about 50 metres around the tree was established, and this remains a small pocket of original 'old growth' vegetation consisting of Kuranda satinash (*Syzigium kuranda*), Daintree quondong (*Eleocarpus bancroftii*), Mackay cedar (*Paraserianthes toona*), Tulip kurrajong (*Fransiscodendron laurifolium*) and Fishtail silky oak (*Neorites kevediana*), the first two of which bear edible seeds.

The logging track which was used to access the tree, and beyond to Adeline Creek, was closed in 1988. For about eight years prior to closure of the road, vehicles could drive to within 50 metres of the dendroglyph. Since 1988, extensive regrowth of lianas, lawyer cane and pioneer species have made the track almost indistinguishable. It is just one of a myriad of old logging trails across Mount Windsor. The Mount Windsor dendroglyph would not have been relocated without the persistence, determination and knowledge of Rupert Russell, an ex-Queensland Parks and Wildlife Ranger, who volunteered over a week of his time to lead an expedition to visit the tree. Initially Mr Russell worked with a team of Western Yalanji custodians to clear the first five kilometres of regrowth on the logging track. This took two - three days. A team of three, consisting of myself, Rupert Russell and Bill Carrodus, followed the track a further 10 km to an abandoned Forestry hut, which served as our base camp.

To provide some indication of the challenge of accessing this site, the final five kilometres to the tree took around five hours and involved navigating a barely visible logging trail that had been closed for over 25 years. Even with the first section of the track 'opened up', the journey was an extremely long and challenging three-day return trip, with only around one hour spent at the dendroglyph site.



Figure 6.1 Measuring the height of the Mount Windsor dendroglyph. Pink tape measures intervals at 2, 3, 4, 4.5, 5, 5.5 and 6 metres above ground level.

The Mount Windsor dendroglyph is unusual because of its scale and height on the tree. The base of the carving starts at 4.5 metres from ground level and its highest point is 5.5 metres from ground level (Fig 6.1). The figure has a head, torso and arms and legs sticking out from the body. The head is a triangle shape, it is wider than it is high. There is no neck. The figure's right knee has an oval shaped 'bump' at the knee, and a smaller bump on its left knee. Four fingers are visible on the man's left hand and its left foot has toes and a heel. The right foot appears to have three toes. Details of the figure are hard to make out due to the height of the carving on the trunk, and it is also difficult to photograph as it occurs so high up the trunk of a Yellow walnut (*Beilschmedia bancroftii*).

The carving itself seems to be in quite good condition. On visual inspection, it does not appear to have altered or deteriorated since 1981 (R. Russell pers. comm.) and there are no obvious

changes to the carving seen in comparison to photographs taken by Paul Curtis around 10 years ago, when the site was last visited.



Figure 6.2 Rot extends approximately 4 metres up the trunk of the tree. The extent of the root rot suggests the tree is at the end of its life.

The tree, however, is suffering from significant rot at its base, on the opposite side to the carving (Figure 6.2). The rot extends from the ground level for around 4 metres up the trunk. At ground level the width of the rot is 1.19m and at 1metre above ground level it is 0.95 metres and at 2 metres above ground level it is 0.53m. The rot extends into the centre of the tree. Rupert Russell first noticed rot at the base of the tree during a visit in 1995 and noted that it had not advanced on a visit in 2005 but that over the last 10 years the rot has grown significantly. The rot poses a significant threat to the longevity of the tree. The Department of Forestry worker who found the tree around 1981 remembers seeing another tree of the same species with base rot, that had been marked for felling but when it was revisited 10 years later it had completely disappeared (S. Kitchener pers comm.). Based on these observations, Mr Kitchener predicted the tree would not survive another 10 years.

The trunk is heavily marked with evidence of insect attack. It is possible that some of these marks are cultural marks that have subsequently been attacked by insects. Vertical fissures were observed on the trunk, which are probably due to the ageing of the tree. There was not enough time to record the trunk marks, nor inspect them in detail. They appear to be possibly small zigzags, ovals and an arc shape, all of which have been observed on carved trees elsewhere (see below).

The GPS track produced from our expedition was compared to a map of Aboriginal walking tracks recorded by Charlie McCracken, the sugar cane farmer from Mossman who documented many of the Aboriginal walking tracks in the Daintree/Mossman district. On one of his walks on the tracks behind the Daintree township, his friend Peter Fisher, a Kuku Yalanji man, identified a fig tree for McCracken (1989:107) and related the following story.

Two natives were walking along this track when they met a tribal enemy. He speared one and chased the other whom he could not catch. The wounded man ran and climbed up the tree where he was found and speared to death.

McCracken and Fisher were following a walking track that McCracken (1989) called Track 2, which leads from Daintree Valley, near the present township, west over the Great Divide to the Mitchell River. McCracken's Track 1 left Daintree Valley upstream of Track 2, and also crossed Mount Windsor to the Mitchell River. These tracks are shown in relation to the Mount Windsor dendroglyph in Figure 6.3.

In the lead-up to the field work, and subsequently, discussions were held with Western Yalanji spokespeople about the significance of the Mount Windsor tree. Without having seen the carving himself, Alwyn Lyall, senior Western Yalanji custodian, related a story told by his grandfather about a man on a tree on the Mount Windsor Tableland. Mr Lyall explained that an outsider (i.e. not a Yalanji person) had travelled across the Mount Windsor plateau and stolen a Yalanji woman from the eastern side. The outsider was following a walking track with the woman, returning to the western side when he was caught by a group of Yalanji men who had pursued him. The Yalanji men speared the outsider, and the wounded man turned into a lizard, ran up the tree and became a permanent mark in the tree. According to Mr Lyall, the dendroglyph marked the location of the story, and the carving itself must have been the man who had been speared and turned into a lizard (A. Lyall pers comm.).

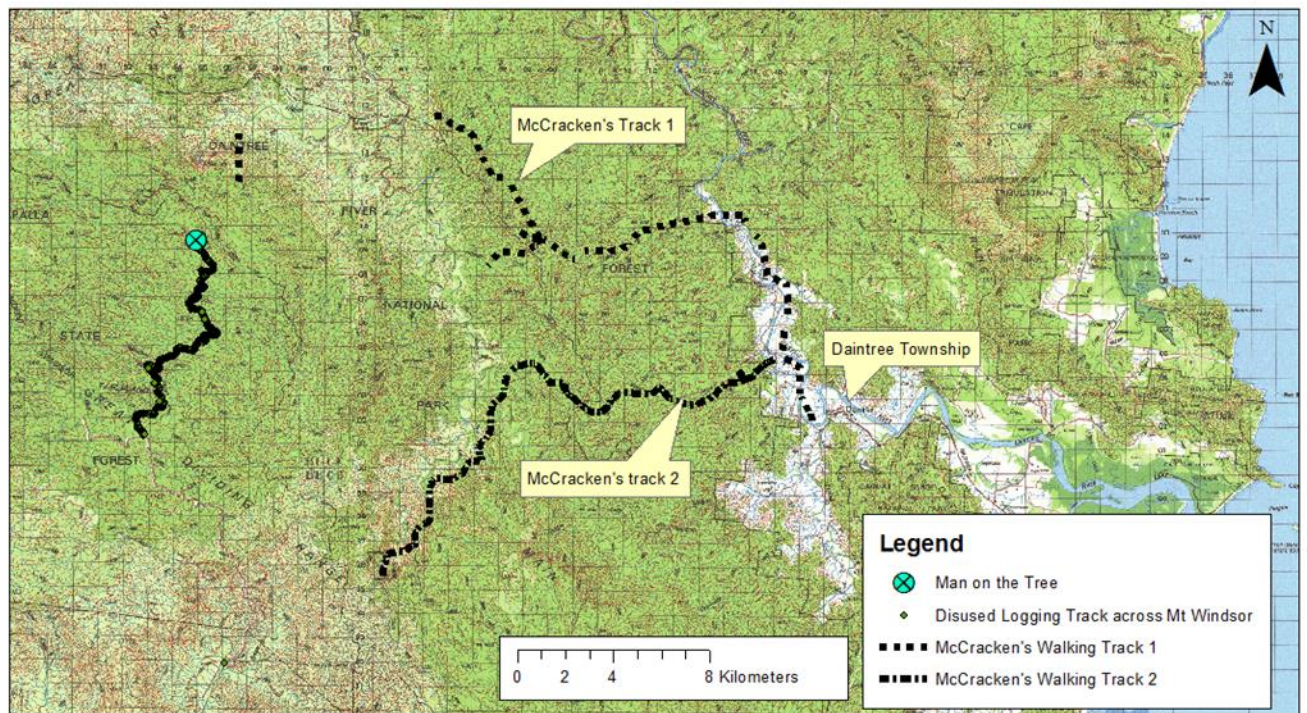


Figure 6.3 Mount Windsor traverse in relation to Aboriginal walking tracks recorded by McCracken (1989). Note the western section of Track 1 that is 2kms from the dendroglyph.

McCracken's maps focus on the eastern side of Mount Windsor and do not show the details of their routes across the plateau. However, the Mount Windsor dendroglyph appears to be close to the western section of McCracken's Track 1, which probably extended past Adeline Creek following the ridge. Aboriginal walking tracks often took the most practical routes through difficult terrain, as did the logging tracks. But McCracken was told the story about the spearing of a tribal enemy in relation to a fig tree on Track 2. The discrepancy in the location of what appears to be identical stories are difficult to explain. It is possible that one of the informants has wrongly identified the tree, another possibility is that there are different versions of the same story. Either way, it seems likely that, in some cases at least, dendroglyphs marked significant story places or past events.

6.3 Freshwater Creek carvings

Upper Freshwater Creek is contained within the Gimuy clan of the Yidinji speaking estate. Freshwater Creek flows west from the Lamb Range into the lowlands at Cairns and empties into the Barron River. An Aboriginal walking track followed Freshwater Creek, linking the Bulwandji estate at Bare Hill, the Yidinji estate at Upper Freshwater Creek and the Yirrganydji estate at the Barron River. A transmission line now follows this general route (Buhrich and Djabugay Tribal

Aboriginal Corporation 2009). In 1973, Upper Freshwater Creek was flooded for the Copperlode Falls Dam. Grimwade's (1990) fieldwork included an inspection of carved bark removed from this area to the Queensland Museum. I conducted research at the Queensland State Archives to trace the history of removal of the dendroglyph and recorded the motifs on the pieces held by the Queensland Museum.

During the 1960s the Upper Freshwater catchment was managed by the Queensland Government as a Forestry Reserve. In 1967, Vern Goodyear and Mr Trezise (possibly Percy Trezise, who was based in Cairns at the time and actively interested in Aboriginal cultural heritage) reported to the Queensland Museum that two carved trees in the Whitfield Range had been felled for timber. It is not clear how Goodyear and Trezise knew about the carved trees, but it seems likely that someone engaged in logging activities considered the carvings to be worthy of protection and 'tipped off' interested members of the public to bring it to the attention of the authorities.

As a result, in 1967, J.M. Johnstone cut sections of dendroglyph from the butt end of a felled Queensland Walnut on a low ridge near the middle branch of the Freshwater Creek on State Forest Reserve 607. Correspondence records state that D.A. Gilmour, a Research Forester, stored the pieces at the Atherton Forestry Office in six pieces from 1967 to 1974. Only five pieces are held by the Queensland Museum today, and it is not clear what happened to the sixth piece, if it existed. Perhaps there was no sixth piece, or maybe it was souvenired or perhaps it was deemed that it was not in good enough condition to be sent to the museum. In the correspondence files, there was some confusion over the dimensions of the bark sections, which, at one stage, are described as 2 ½ inches (instead of 2 feet 6 inches), suggesting there was some confusion between the authorities at Atherton and Brisbane.

A second carved tree identified about 2 miles from the first, on a flat near Freshwater Creek, was not kept. It was described as having less clear markings and was apparently damaged, although it is not clear if the damage was caused by logging or natural decay. Although it is reported that the carvings were removed to preserve them from flooding (Grimwade 1990) this is questionable considering the tree was felled for timber six years prior to the dam construction.

In 1973, correspondence began between Kate Sutcliffe, Curator of Archaeology, Department Aboriginal Islander Advancement and the Secretary, Department Forestry requesting the sections be removed to the Queensland Museum. In June 1974, five pieces, weighing approximately 150kg, were packed and sent to the Queensland Museum where they remain in storage. The Queensland Museum registration number for the 5 pieces is QE9931. Three pieces are tagged (QE9931/1, QE9931/3, QE9931/4). This site is on the state cultural heritage database (FN:A19).

In 2015, I inspected the pieces stored in the Queensland Museum with the aim of documenting the carvings and assessing their preservation since they had been inspected by Grimwade in 1989 (Table 6.2). The carvings were extensive, compared to the other dendroglyphs I had recorded and appeared to have once wrapped around the whole tree trunk. The carving must have been quite striking, although the order and relationship of the pieces is not known and if they were laid side by side the length of the panel of carvings would be 2.55 metres.

Table 6.2 Description of sections of Upper Freshwater Creek dendroglyph held in Queensland Museum. Sketches shown overleaf.

| Number | Dimensions | Pattern | Conservation issues |
|--------|---|---|---|
| 1 | Large piece, approx 1m long x 60cm wide. Anthropomorphic | Anthropomorphic male figure takes up most of the piece. | Some fissures and cracks. |
| 2 | Approx 1m long x 50cm wide at base. | Deep oval shaped carvings at top and elongated oval shapes towards bottom of section. | Deep crack in centre, Piece of outer bark missing on left side. Two saw marks on top right. |
| 3 | Approx 50cm x 50cm. Deep | Deep chevron design on top half and small circular shapes. | Saw marks on lower right and left side. |
| 4 | Approx 45cm x 45 cm. Abstract | Abstract shapes carved into left side. | Deep crack in centre. Smaller cracks running from base and top of piece. |
| 5 | Approx 45cm high and 50cm long. Abstract | Abstract lines and circular shapes. Possible 'bird foot' on top left. | Crack in centre of piece. |

The tree species could not be identified from the sections retained by the Queensland Museum, although the 'Queensland walnut', described in the Queensland Museum records, often refers to *Endiandra palmerstonii* (also called the black walnut). The most striking carving is that of the male anthropomorphic shape with a triangle shaped head and exaggerated appendage (Figure 6.4, top left). The carving measures nearly one metre in height. Also notable is the deeply carved chevron ('W') shape and deep oval, both of which are recorded elsewhere (see below).

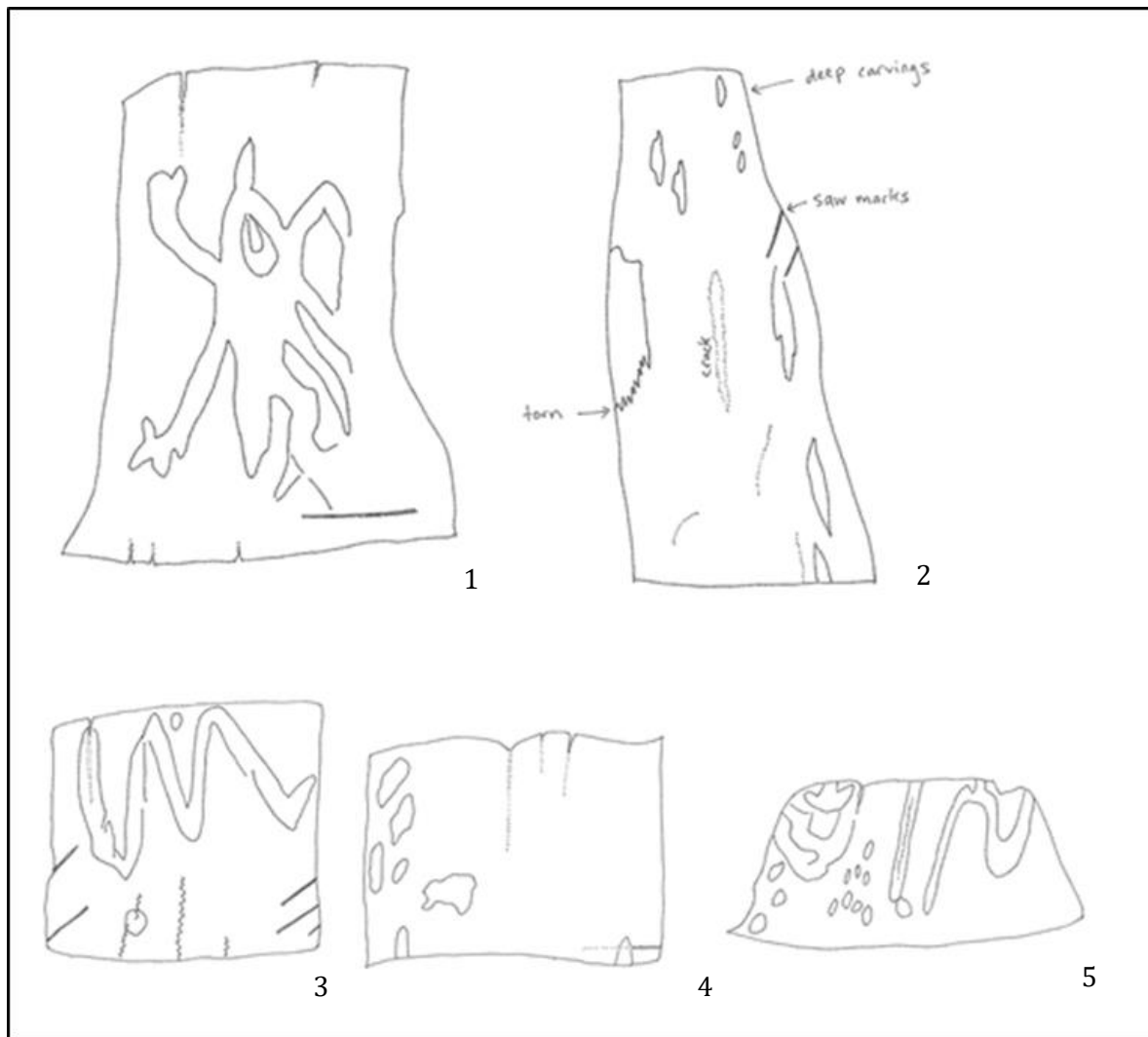


Figure 6.4 Sketch of pieces held in Queensland Museum.

Discussions were held with Gimuy Walubara Yidinji representative, Gudju Gudju Fourmile, concerning the trees and the broader Yidinji cultural landscape. According to Mr Fourmile, Yidinji people knew of the carved trees from the Upper Freshwater Creek area, where they marked the boundaries between clan groups. This is the only reference to carved trees in the Wet Tropics as boundary markers. It is not clear what boundary the trees were marking. Today the Upper Freshwater Creek catchment is considered by Gimuy Yidinji to be wholly within their native title claim area. Neither was it clear from our conversation whether the two carvings located during logging activities were the only carvings known to exist on the Yidinji estate. These discrepancies are yet to be resolved.

6.4 Koombooloomba carving

The Koombooloomba carving, on the Jirrbal estate, is easily the most accessible and most visited of all rainforest dendroglyphs and was recorded previously, in 1972, 1976 and 1989 (see Section 3.4). A fibreglass replica made by Gordon Grimwade and the Queensland Museum in 1991

(Grimwade et al. 1992) provided an excellent opportunity to compare the growth of the carving over 22 years. In 1989, Forestry workers told Grimwade that the carvings appeared to be ‘fading’ and had regrown significantly since their last visit five years earlier (Grimwade 1990). To test this, the fibreglass model was taken from Ravenshoe Visitor Centre and transported to the site of the original living tree so direct comparisons could be made between corresponding locations on the cast and on the living dendroglyph (Figure 6.5)



Figure 6.5 Comparison of fibreglass model (on left) and living tree (on right).

The tree is a mature Black walnut (*Endiandra palmerstonii*) with significant buttress roots that are approximately 2 m high. Carved into one of the buttresses is an abstract figure approximately 1.1 m high and 0.63m wide, starting 0.85m above ground level. The dendroglyph is a linear design with carved lines around 5cm wide with a depth of less than 1cm.

Results of measurements are presented in Table 6.3. An almost imperceptible change was noted between measurements taken from the 1991 cast and the living carving in 2013 (Buhrich et al. 2015). For two of the measurements, the carving had slightly expanded over time, and one measurement indicated the carving had grown over by 2.38 mm. This suggests that once the trees reach maturity, there is very little growth at the base of their trunks. Our comparison of bark regrowth demonstrates the carving has changed very little since the fibreglass model was made

in 1991. Change between the measurements taken of the 1991 cast and the carving in 2013 were almost imperceptible.

Table 6.3 Comparison of cast taken 1991 and dendroglyph in 2013 and 1991 (Buhrich et al. 2015).

| Tree (2013) | Cast (1991) | Difference (mm) |
|-------------|-------------|-----------------|
| 71.89 | 71.89 | 0 |
| 37.36 | 37.36 | 0 |
| 30.46 | 30.46 | 0 |
| 54.66 | 54.67 | 0.01 |
| 39.00 | 39.00 | 0 |
| 44.61 | 44.80 | 0.19 |
| 31.09 | 31.09 | 0 |
| 31.95 | 29.57 | -2.38 |
| 17.49 | 17.49 | 0 |

Unfortunately, the experiment could not be repeated on the second cast taken by Grimwade in 1991 due to access issues (discussed below). From just one sample, it is impossible to draw conclusions about the growth rates of other dendroglyph species. This experiment demonstrates why it is important to test assumptions about the fading or growth of carvings over time. Although previous visitors had declared the carving to be fading, our measurements indicate this is not the case.

A previous record noted a small patch of defoliating bark about five metres up the trunk, above the carving (Grimwade 1990). At time of our visit in 2014, the patch had grown significantly and nearly wrapped around the whole tree trunk. A botanist assessed the tree to determine processes that might threaten the preservation of the dendroglyph (Hill 2013). It was concluded that no visible limbs have fallen recently, although several other trees in the area have lost limbs due to cyclone damage; and bark defoliation is present approximately 1 m above the convergence point of the buttresses (Buhrich et al. 2015). This process often occurs as a result of old age, and indicates vulnerability of the stem cavity. Ageing trees incur greater cavitation within mid-stem xylem tissues. Consequently, the mid-stem is susceptible to fungal and pathogen attack, which

gradually reduces the structural stability of the tree (Hill 2013). Thus, vulnerability from old age and defoliation appear to pose the greatest threats to the dendroglyph.

No specific information was shared by Jirrbal custodians at this site. However, on a previous visit Jirrbal Elder Maisie Barlow had revealed to another researcher that the carving marked the location of the 'old people's campground' (Buhrich et al. 2014:92). This is at odds with the interpretation of carved trees by another, anonymous Jirrbal representative, who asserted the carvings marked specific cultural places and it was only appropriate for men to visit. This informant suggested that the reason people did not visit or discuss the trees was not because they did not know them, but because it was not culturally appropriate. During our site visits, one Jirrbal elder, Betty Cashmere also identified the carved trees as having a specific ceremonial role, and discussed a pattern in the association of dendroglyphs and cultural sites.

6.5 O'Leary Road

The O'Leary Road dendroglyph is within the Jirrbal native title determination in Koombooloomba National Park. There are two carvings on a single northern Silky Oak (*Cardwellia sublimis*). The first known written record of this tree is correspondence from a Forestry Overseer to the District Forester stating that a brushed track and painted line had been placed around the tree (Grimwade 1990). In 1987, a site record card made by B. Struber of the Department of Forestry describes the presence of a grinding dish 10 metres from tree. The site was recorded in 1989 by S. Collins, as part of the Grimwade's Carved Tree Project. The 1989 recording makes no mention of the grinding dish, which may have been collected by the Department of Forestry as they maintained an informal (unprovenanced) collection of stone tools, which has subsequently been distributed to Aboriginal custodians.

The O'Leary Road dendroglyph was one of two fiberglass models made by Grimwade and his team in 1990 (Grimwade 1993). The first was kept by the Queensland Museum and the second by Grimwade. In 2014, the first model was observed on display at the Menmuny Museum, Yarrabah. At the time, the Menmuny Museum curators were not aware of where the cast was from, or how it had been obtained by their museum. By January 2016, the cast was no longer on display at the Menmuny Museum and the new curators did not know where it was. At the time, it could not be located in storage on the Menmuny Museum premises, nor could documents be found detailing where it might have gone. Grimwade donated the second cast to Wabubadda Aboriginal Corporation in June 2015, which was described by Wabubadda Aboriginal Corporation as 'a momentous occasion for Jirrbal people' (<https://www.wabubadda.com/projects> 31 May 2017).

In 2015, Aboriginal custodians Betty and Cedric Cashmere, Gordon and Christine Grimwade and I could only get a vehicle within 20km of the site, which is a distance is too far for the relevant

Traditional Owners to walk. Subsequent advice from Wet Tropics Management Authority (S. Buchanan pers comm.) is that a permit is required for any reconstruction of the road such as removal of branches or the filling of potholes. Representatives of Wabubadda Aboriginal Corporation have indicated that the locations of the carved tree sites should be kept secret and visits to these trees may not be appropriate due to cultural protocols (see above).

The existence of the fibreglass model provides an opportunity to include the dendroglyph design in this thesis, without visiting the tree. Descriptions of the design are from observations of the model and those made in previous recordings (see Grimwade 1990). The main motif is a male anthropomorph with upraised hands, male appendage and parallel lines across the chest. The figure is holding an object in its right hand, which has been interpreted in site records as a boomerang. The second motif is an 'X' carved above the head of the main figure. The anthropomorphic figure is composed of three diamond shapes, one being the head, one the torso and one the shape of the legs (Figure 6.6).

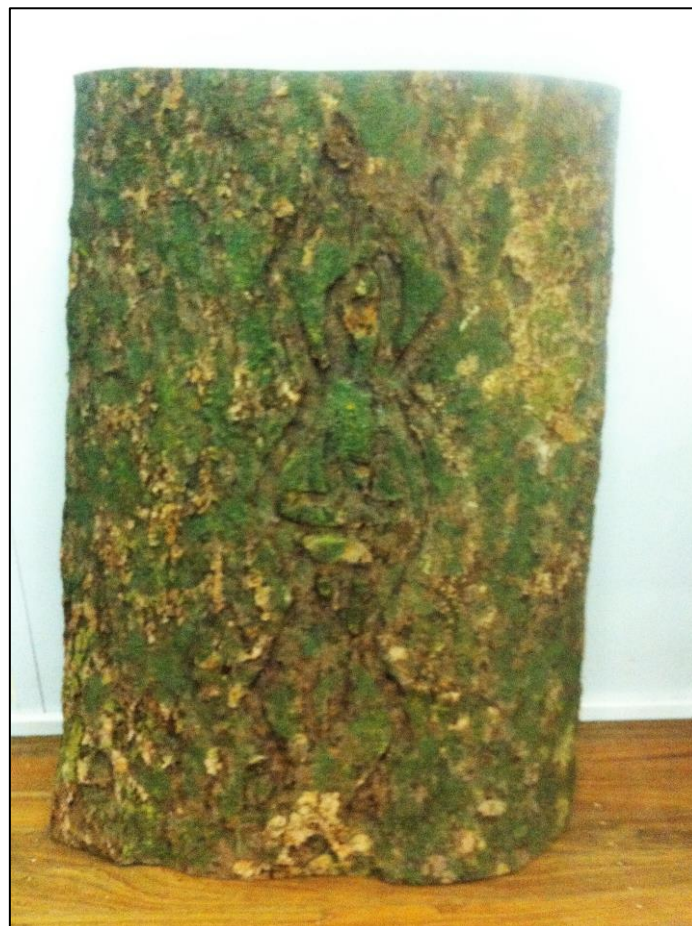


Figure 6.6 Fibreglass model of O'Leary Road dendroglyph, note diamond shaped head, torso and legs.

The 'diamond' forms contained in the carving had been raised in a prior conversation with Jirrbal Elder Ernie Raymont. In a conversation about shield designs, Jirrbal Elder Ernie Grant stated,

the Djabugay / Yidin shield is very different to the Mamu / Njadjan shield. A lot of people don't realise that should you take a photo of the shield you know where it comes from. Ingham to Russell River has all got a different shape to Russell River to just south of Mossman.....The design itself, the way the paintings are, you won't see diamonds on Djabugay or Yidin shield. They've got quite different patterns.

Discussions with Mr Grant were held before I had examined the O'Leary Road dendroglyph model. Without being specific about which carving he was talking about, Mr Grant told me that I would see the diamond shapes depicting a male anthropomorph in a dendroglyph on the Jirrbal estate. He brought a shield out of his personal collection to illustrate how the diamond design is repeated in Jirrbal visual culture.

6.6 Charappa

The Charappa cluster of trees is located within the Mamu native title determination, in the Wooroonooran National Park. It is the larger of only two known clusters of rainforest dendroglyphs. The Charappa cluster was the focus of a series of activities between 2013 and 2017, led by Waribarra and Dugulbarra clan leaders, since we relocated the trees in 2013. They are described below in order of activity, starting with relocation of the site itself, recording of the motifs, installation of walking tracks, detailed recording with a 3D laser scanner and visits by school groups to learn about Aboriginal culture.

The cluster of dendroglyphs were first recorded by the Millaa Millaa Branch of the Department of Forestry in 1969. A preservation zone around the cluster was marked with a brushed track and paint and the trees were mapped and motifs recorded (Grimwade 1990). At the time, it was noted that further carved trees were present in the surrounding vicinity, although no more details were provided and these may not have survived logging in the area. Unspecified artefacts were noted and possibly collected to become part of the Department of Forestry collection. In 1989, the Charappa site was inspected by Darrin Lee Long for Grimwade. Only four of the seven trees were located and it was presumed that three of the original carved trees had been destroyed by Cyclone Winifred in 1986 (Grimwade 1990).

The Charappa cluster is an excellent illustration of how hard it can be to locate rainforest dendroglyphs. Unlike many of the other dendroglyph sites, we had a detailed compass and tape map (dated 1969) from an existing road into the site, which starts only 276 metres from the road. It took a team of eight people one full day to follow the 1969 compass and tape map, hindered by

dense vegetation, fallen trees, lawyer cane and stinging trees. A second full day was spent locating each of the trees. The team included Mamu custodians and an ex-Department of Forestry employee to relocate the Charappa cluster.

Because the area had experienced two severe cyclones in recent years which had left extensive damage to vegetation, we were expecting to find less than the four trees located in 1989. Surprisingly we found all seven of the trees which had been identified in 1969.

Climatic modelling predicts more numerous and more extreme tropical weather events as an effect of global warming. The Wet Tropics could already be feeling the effects of climatic change, as demonstrated by the two category 5 cyclones that made landfall near Innisfail between 2003 and 2011, causing major damage to rainforest vegetation. Cyclonic events have the potential to damage carved trees, not only from the extreme winds causing trees to fall and lose limbs, but the loss of canopy cover which can facilitate weed incursion (Laurence and Goosem 2008). The health of the surrounding environment is also a crucial factor in dendroglyph preservation. For example, in the Chatham Islands, pastoral clearing and wind exposure has destroyed over 400 carved trees (Barber et al. 2014).

Our investigation at Charappa determined that cyclones are not the major threat to dendroglyph survival. However, many of the trees inspected during my research showed evidence of insect attack, fungal growth and rot. The main preservation issue appears to be the ageing of the trees themselves. As trees mature, cell structures weaken, affecting their ability to transfer water through from the roots to the leaves via the xylem, which can result in the rupture of water logged cells. At these rupture points the tree becomes more susceptible to fungal growth, insect attack and breakage (Hill 2013). Fungal growth and rot has been observed in several of the carved trees. The Mount Windsor dendroglyph, for example, has rot extending four metres up the trunk and may not survive the next 10 years (S. Kitchener pers comm.). A small patch of fungal growth on one tree observed in 1991 (Grimwade 1990) has grown significantly over 22 years and is probably weakening the tree structure (Hill 2013). Further work is needed to reveal the extent of the damage to dendroglyphs across the Wet Tropics, but inspections suggest that this is a critical stage for the preservation of the carved trees.



Figure 6.7 Dendroglyphs at the Charappa site.

In 2016, the Department of Environment and Heritage Protection (EHP) provided a Mamu organisation, Mullen Bun Goon Ltd, funding to install walking tracks around the Charappa trees and to complete 3D laser scans of the dendroglyphs as part of a larger Land and Sea Management project by Mamu in Wooroonooran National Park. Walking tracks were constructed by Waribarra and Dugulbarra members, who had formed the Traditional Owner Environmental Services (TOES), with the specific aim of the relevant Traditional Owners providing environmental services on their own country. Working in partnership with the Queensland Parks and Wildlife Service (QPWS) and Terrain Natural Resource Management.

The 3D laser scanning was a pilot project to test how successful 3D laser scans would be in recording the carvings and their site context. Our initial results suggest three dimensional scans present opportunities for management of the carved trees. Firstly, scans can potentially produce a better image of the carvings than can be made with the naked eye because the laser scanner can record exact carvings, while the eye is influenced by shadows. The accuracy of the scans at Charappa were between 2 and 4 mm. Secondly, scans allow Mamu to monitor changes over time, in both the width and depth of carving as well as the tree health. As previously mentioned, many of the trees have evidence of insect attack, fungal growth or cracks, which are results of the ageing of the trees (Buhrich et al. 2015). Creating detailed scans of the trees provides an opportunity to observe how they are changing over time.

6.7 South Johnstone

The South Johnstone cluster are within the Wooroonooran National Park and the Mamu native title determined area. The custodians identified a walking track that followed the ridge on which the trees are located, which they suspect met up with the Charappa Creek site.

Grimwade's (1990) report includes a description of a possible carved trees on a 'red soil plateau' that could not be accessed in 1989 due to extensive cyclone damage. We attempted to relocate the tree(s) using the descriptions provided to Grimwade by ex-Department of Forestry employees. In 2014, Dugulbarra and Waribarra clan members spent two days clearing a track to the red soil plateau described in Grimwade's field notes. On a third day, we examined around 90% of the large trees within 100 metres of the plateau. We also inspected trees between the first and second plateau. Around 20 large trees had fallen, many facing the same direction, probably knocked down during cyclones Larry (2006) or Winifred (2011), judging from the rate of decomposition (S. Purcell pers. comm.).



Figure 6.8 At South Johnstone two carvings of large ovals were found, a similar carving was seen at Mystery Creek in 1990 (R. Catton pers comm.).

An extensive search of the plateau identified three potential dendroglyphs. Two dendroglyphs are large ovals (Figure 6.8). A similar sized oval shape was found carved into a walnut at Mystery Creek by Dr Rod Catton and Nicky Horsfall in 1990 (R. Catton pers comm.) and comparison of photographs of the motifs revealed they are similar in size, shape and height above ground level.

The third dendroglyph comprises three horizontal parallel lines cut into the bark of a candlenut (*Aleurites moluccanus*) (Figure 6.9). This is tentatively identified as a dendroglyph, based on criteria discussed in Appendix A5. It is possible that the scars on this tree were cut into the bark of a growing tree, and that has resulted in a spread over time. Certainly, carvings of parallel lines are relatively common in the rainforest dendroglyphs, particularly in the area around Maple Creek. Carvings have not previously been identified on candlenut trees, but considering how little is known about rainforest dendroglyphs it is entirely possible that candlenuts were carved. The parallel marks do not seem to have a natural cause, for example it is unlikely they were caused by vines wrapping around the trunk, although the irregular oval shape superimposing the top line is probably a result of insect or bird damage.



Figure 6.9 Parallel lines found at South Johnstone, probably of Aboriginal origin. It appears that the trunk has expanded since the carvings were made (Photograph S. Purcell).

6.8 Other dendroglyph sites

Several dendroglyph sites recorded by Grimwade (1990) were not visited for this project due to time and access constraints and safety considerations. These include K Tree Road (an unsuccessful attempt to locate the tree was made in 2013), Francis Range, Mystery Creek and Cardwell Range. These trees were deemed too remote and the lack of locational information means they would be extremely difficult to relocate. Each site would require a five-day walking

expedition through trackless rainforest. Unlike the Mount Windsor dendroglyph, no living person who has seen these trees and who could lead such an expedition has been located, making the likelihood of finding each individual tree extremely low.

A tree known locally as the 'Chinese hieroglyph' is on a walking trail within the Barron Gorge National Park, between Cairns and Speewah. Queensland Parks and Wildlife Service (QPWS) brochures report that Chinese immigrants from the Palmer River goldfields carved the hieroglyph. However, the 'Chinese hieroglyph' shares several attributes with rainforest Aboriginal dendroglyphs. The abstract motif is carved into the bark of a mature kauri pine (*Agathis robustus*). The network of walking trails through Barron Gorge National Park follow what were originally Aboriginal walking tracks, some of these were used historically as roads between the Hodgkinson goldfields and the port of Cairns and later to construct the Kuranda railway. While it is possible Chinese miners used the tracks along with Europeans, they are not known to have had a presence in the gorge.

In addition to the sites visited for this research, there were unconfirmed dendroglyphs reported to me in response to my interest in carved trees of the Wet Tropics. Unfortunately, there was not time to investigate each of these reported trees, either because of their remoteness or because of the need to develop mutually beneficial research objectives with each of the relevant Aboriginal parties. However, they are included briefly here with the hope that they can be investigated in the future.

Kaphalim Rock is a granite massif that rises out of the Lamb Range, west of Cairns. Carved trees are recorded on the eastern (Upper Freshwater Creek) and the northern (Barron Gorge) slopes of the Lamb Range. Information from Willie Brim suggests it was a part of a male initiation area. In 2001, I observed a possible carving on a mature kauri pine (*Agathis robustus*) during a recreational walk at the southwest base of Kaphalim Rock. However, this is unconfirmed.

In 2015, a carving on a mature tree was reportedly located by Mamu custodians in a patch of mature forest near Millaa Millaa. Since commencement of this project, Mamu custodians have been particularly enthusiastic about identifying new dendroglyphs for inclusion on the Mamu Cultural Heritage Database. The abstract carving is on an unidentified tree species within a patch of remnant vegetation and requires verification.

In 2016, an ex-Forestry employee, who heard of my interest in rainforest dendroglyphs, contacted me to report a male anthropomorph carved into a mature tree in the Mulgrave Valley. The remoteness of the site means that it has probably not been visited for many years and is not widely known. This carving is yet to be investigated.

Two dendroglyphs are reported on the Eastern Yalanji estate, however as Jabalbina Aboriginal Corporation chose not to be part of this study they are not described here.

6.9 Motif categories

They were classified into three levels (Table 6.4). There is a dominance of non-figurative motifs in the dendroglyphs, which are all recorded on the eastern side of the Wet Tropics. This is in sharp contrast to the mainly figurative motifs recorded in rock art from the eastern side of the Wet Tropics.

Table 6.4 Level 1, 2 and 3 categories of rainforest dendroglyphs.

| Level 1 | Figurative (3) | | | Non-figurative (33) | | | | | | | | | | | | | Tracks (2) |
|---------|----------------|---------------------|--------------------|---------------------------|---------|----------------|------------|---------|-------|-----------------|---|----------|-------------|-----------|----------|----------------|----------------|
| Level 2 | Anthropomorph | | | Horizontal parallel lines | | Abstract shape | | Chevron | | Geometric shape | | Arcs | | Linear | | | Bird - trident |
| Level 3 | Male | Male lines on chest | Male triangle head | 4 lines | 3 lines | Over 40cm | Under 40cm | Small | Large | X | O | Opposing | Un-opposing | Lettering | One line | Multiple lines | Cassowary |
| Number | 1 | 1 | 1 | 3 | 2 | 5 | 5 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 2 |

Level 1: Figurative, non-figurative and tracks

Thirty-three out of the entire sample of 38 motifs were classified as non-figurative, which is 86% of the sample. Out of the remaining five motifs, three are distinguishable as figurative, and two are classified as tracks (Figure 6.11).

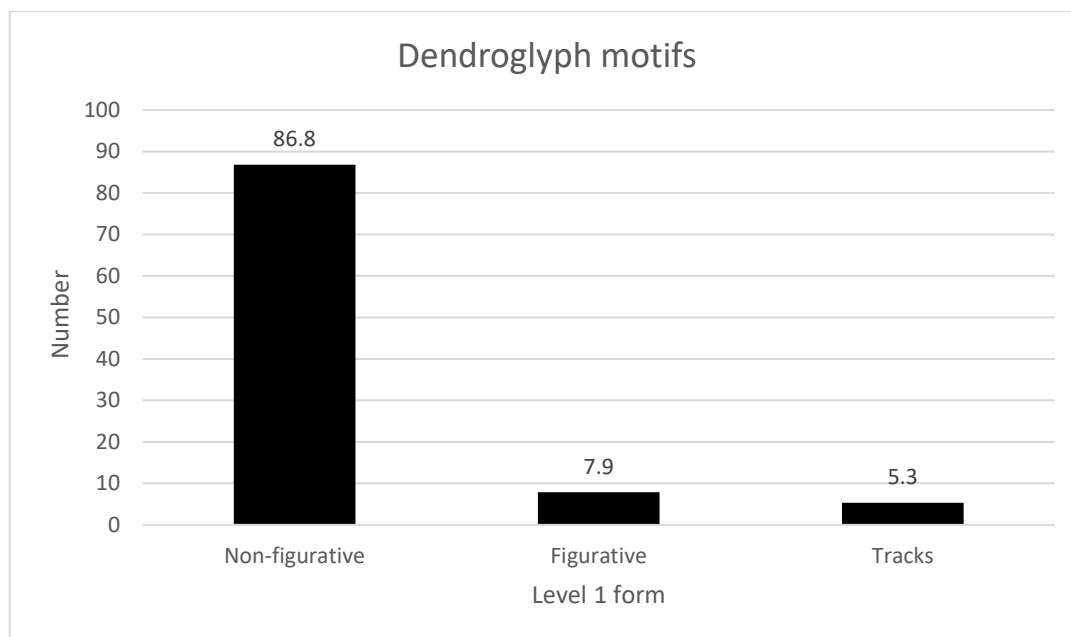


Figure 6.11 Comparison of figurative, non-figurative and track motifs in rainforest dendroglyphs.

Level 2: Distinguishable motifs and patterns

Non-figurative motifs were classified into six Level 2 categories. The most common Level 2 motifs were abstract shapes, linear designs, parallel lines and arcs (Figure 6.12). Together these four Level 2 classifications make up 26 of the 38 (68.4%) of all recorded dendroglyph motifs. Only one figurative category, anthropomorphs, was identified. Both recorded tracks were bird tracks/tridents.

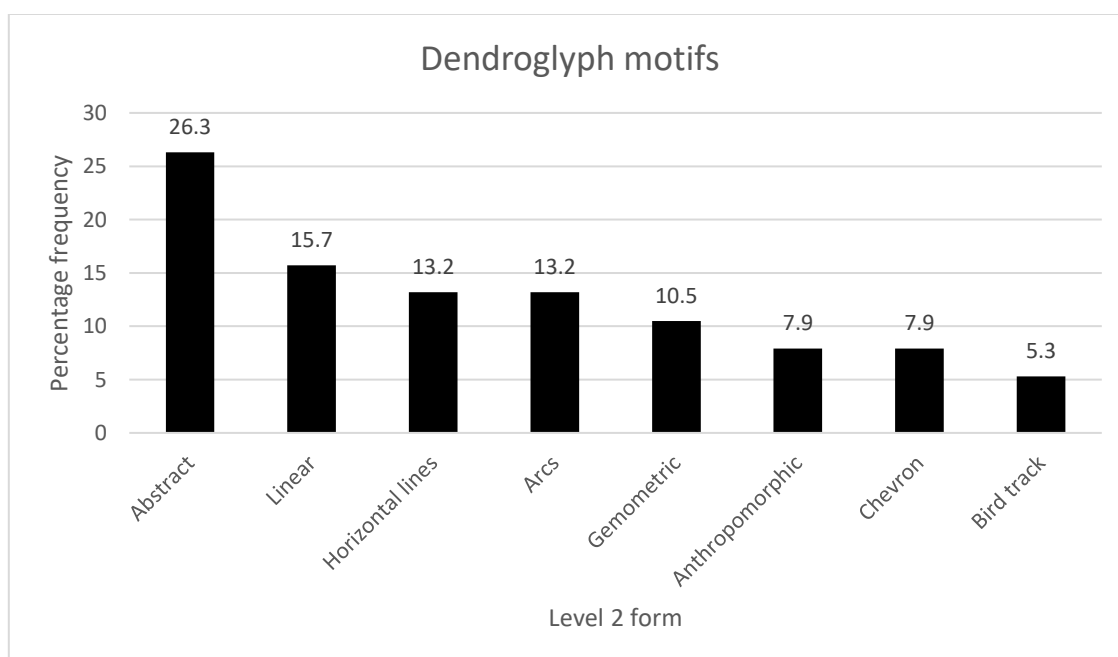


Figure 6.12 Comparison of Level 2 dendroglyph motifs.

Level 3: Individual motif patterns

Seventeen categories of individual dendroglyph motif patterns were identified.

Arcs

Eight of the sixteen geometric shapes are arcs. They consist of 2 pairs of opposing arcs (Figure 6.13), 1 pair of non-opposing arcs and 2 single arcs.



Figure 6.13 Example of opposing arcs.

Abstract

Abstract shapes are the most common Level 3 category of dendroglyph form overall, with ten examples recorded. Half of these were over 40cm high and half were smaller than 40cm in height.

Horizontal lines

Five sets of horizontal parallel lines were recorded. Three of these were four lines (Figure 6.14), and two were sets of two lines.

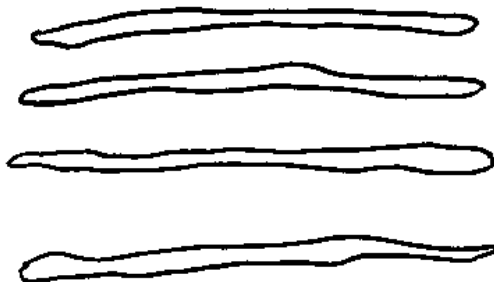


Figure 6.14 Set of four parallel lines.

Ovals and X's

Of the four geometric shapes recorded, two were ovals measuring up to 60 cm in height and two were 'X' shapes. One of the 'X' shapes was associated with a male anthropomorph (see below).

Linear designs

Five linear designs were recorded, including one set of possibly European lettering. Three of the linear designs used more than one line, and there was one example where one single line was used.

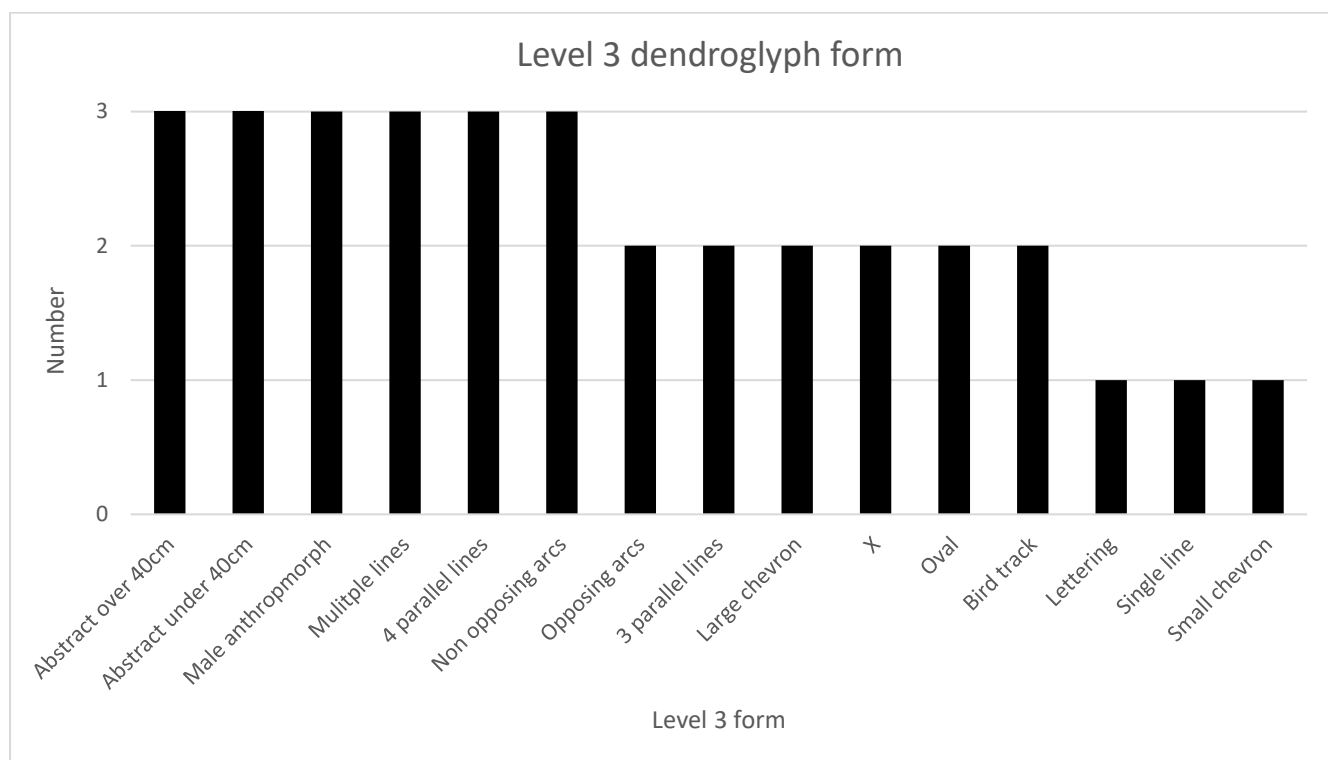


Figure 6.15 Level 3 dendroglyph classifications.

Anthropomorphs

Each of the three anthropomorphic figurative motifs were male, identified by an exaggerated male appendage. Anthropomorphs are identified by a head, torso, arms and legs. Two of the males are single carvings, the third was removed from a tree which had abstract and geometric shapes also carved. These are discussed in relation to rock art below. Both tridents were interpreted by custodians as bird tracks, and more specifically cassowary tracks.

6.10 Patterns

One of the most striking patterns is that all the Level 2, and most of the Level 3, dendroglyph motifs are repeated, suggesting specific symbols were being chosen. This supports the assertions from the Aboriginal parties, that dendroglyph motifs were used as clan symbols, as discussed by custodians in our interviews. Arcs and parallel lines form nearly a quarter of all recorded motifs,

and are only recorded in the Dyribal speaking Mamu and Jirrbal estates. Chevrons were another popular motif, recorded only in the Dyribal and Yidinji speaking estates. However, this is not a simple case of clan designs being found in certain areas. The diamonds, for example, identified by E. Grant as Jirrbal designs, were also seen in an anthropomorphic figure on the Yidinji estate. Although there are patterns in the use of specific motifs, further work is required to determine the meaning of the designs.

Although only three examples are recorded, the three male anthropomorphs are most intriguing. It seems more than coincidence that there is no female, unambiguous or non-gendered anthropomorphic motifs. While male anthropomorphs are a feature of Wet Tropics rock art, particularly on the eastern side, there are some examples of non-male anthropomorphs in the rock art. The Mount Windsor male dendroglyph has features sometimes seen in Quinkan painted images, such as a triangle shaped head and a mark on one knee (interpreted as stone axes in Quinkan paintings). One male anthropomorph has a set of parallel lines carved into his chest, a common mark of initiation in Aboriginal men (Roth 1910: 47-8). This may provide some clue about the five sets of parallel lines recorded on dendroglyphs elsewhere.

Dendroglyphs tend to have similar dimensions, the smallest being 40cm and the largest 1.2 metres. Most carvings are made between 0.8 and 1.2 metres above ground level, although there are two significant exceptions. The Mount Windsor dendroglyph starts at 4.5 metres above ground level and is over 1 metre high. A carving at Tchuken bora ground was reported at a similar height (Seaton n.d.) although the tree no longer exists and the carving does not appear to be documented elsewhere. It is often assumed that a dendroglyph observed high in the trunk of a tree was carved lower to the ground and rose as the tree grew, but this is false. At their base, trees do not grow higher, but thicker. Dendroglyphs remain at relatively the same height at which they were carved. This is important as it means that a carving made into the trunk of a mature tree stays in the same place relative to ground level as the tree ages. The placement of large carving five metres above ground level indicates exceedingly high tree climbing ability, technical skill and planning.

Dendroglyphs are found on at least six tree species in the Wet Tropics World Heritage Area. Considering there are over 2800 tree species contained in the Wet Tropics, it appears that certain trees were specifically targeted for carving (Figure 6.16). Three of the known carved species, black walnut (*Endiandra palmerstonii*), yellow walnut (*Beilschmedia bancroftii*) and candlenut (*Aleurites moluccana*), produced edible seeds, while kauri pine (*Agathis robustus*), silky oak (*Grevillea robusta*) and McIntyre box (*Xanthophyllum octandrum*) were not known food sources. It is possible, although unlikely, that the small number of dendroglyph tree species is a result of

taphonomic processes. It may be that the tree species on which dendroglyphs are found are long living or the bark slow growing. With such a small sample size it is difficult to draw conclusions from the observations on tree species.

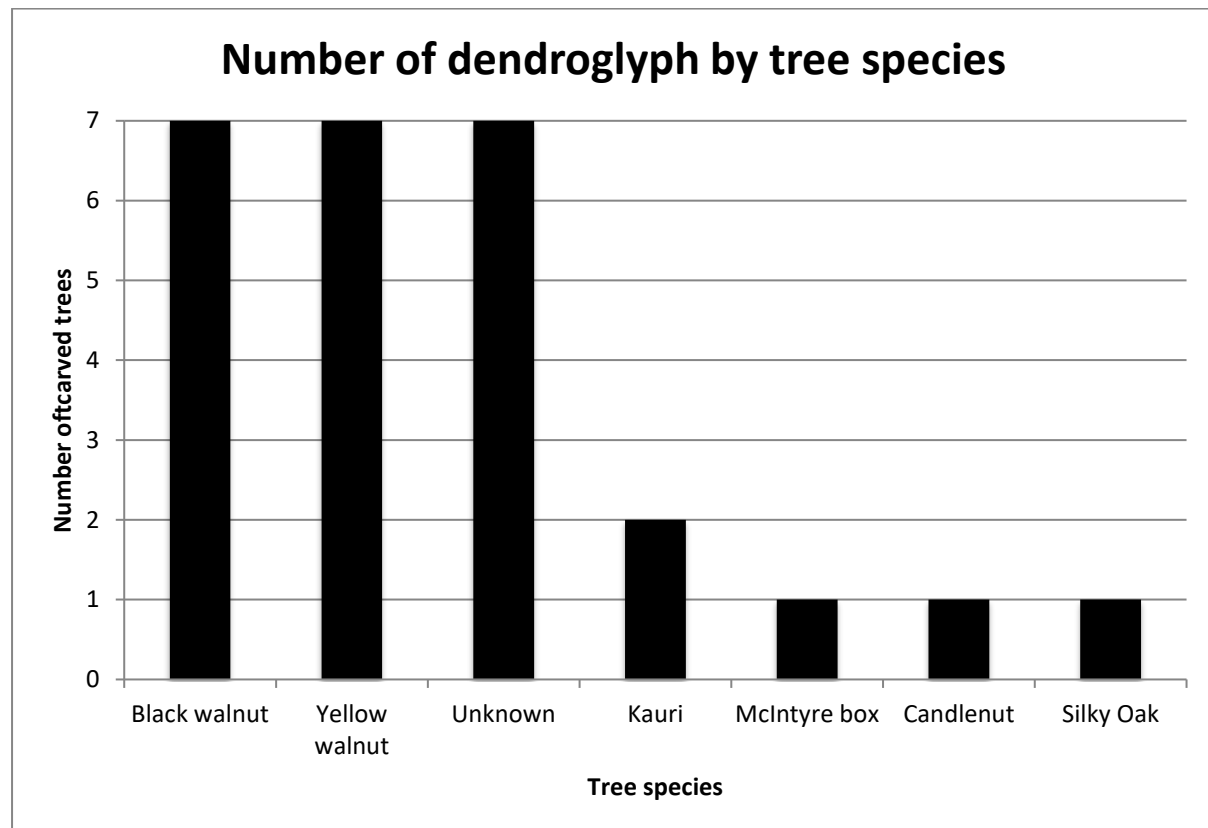


Figure 6.16 Number of dendroglyph tree species.

There does not appear to be a set pattern in the altitude of rainforest dendroglyphs. The sites recorded for this study are all between altitudes of 400 to 1200 metres above sea level (ASL) but there are also reports of at least one dendroglyph in the Mulgrave River delta ('Our Neighbours' 1885:2). All the surviving dendroglyphs are in altitudes above 700 m ASL and it is likely this is a factor of conservation rather than the original distribution. Most of the surviving dendroglyphs are found in the areas that the Millaa Millaa and Ravenshoe forestry offices managed, and we know that certain Department of Forestry workers set aside preservation zones for dendroglyphs in these areas, which are now national parks. The lowlands of the Wet Tropics have suffered extensive clearing for urban development and agriculture, and it seems likely that dendroglyphs may have been destroyed during this process.

The conservation of these special trees by the Millaa Millaa and Ravenshoe Branches of the Department of Forestry has significantly influenced the distribution of known dendroglyphs.

Today, most of the dendroglyphs are found on the Dyirbal speaking estates of Mamu and Jirrbal Aboriginal custodians, which were managed by the Millaa Millaa and Ravenshoe district Forestry offices respectively. However, they are also known on the Yalanji, Yidinji and Djabugay speaking estates suggesting the practice of tree carving was not related to a specific language group.

Many of the dendroglyphs are associated with Aboriginal walking tracks. These are identified either through oral history or historical information, and in some instances, the original Aboriginal walking tracks are now used for recreational walking trails. Dendroglyphs are usually found within 150 metres of permanent water. Often cultural material has been located nearby, particularly stone artefacts such as quartz flakes and nut cracking rocks. Kaphalim Rock (RD:24) is an exception, with no permanent water or cultural material found nearby, however the rock itself is an important Aboriginal story place in Aboriginal oral history.

There was little consensus in the information provided by the Aboriginal custodians about the purpose of the dendroglyph sites. Dugulbarra informants identified the dendroglyph sites as campsites because they were usually associated with edible nut bearing trees, walking tracks, were not far from water and stone tools had been found at some sites (A. Joyce per comm.). In contrast, Jirrbal informants considered the dendroglyphs to be initiation sites and not camp sites, which would have been located nearby. Gimuy Yidinji recognised the dendroglyphs as boundary markers between clan estates. Western Yalanji identified the one recorded dendroglyph on their estate as a story place. This lack of cohesion in identifying the role of dendroglyphs in the cultural landscape is not surprising nor necessarily contradictory. Single motifs can have multiple meanings in Aboriginal cosmology, and individual motifs can have different meanings to different groups. Research on the Indigenous interpretations of Canadian and Chatham Island dendroglyphs identify multiple meanings, sometimes for the same dendroglyph (e.g. Blackstock 2001, see also Richards 2007). The possible meanings and cultural contexts of rainforest dendroglyphs is discussed further in the following chapter.

6.11 Threats to the dendroglyphs survival

As described previously, in 1989 the Commonwealth Department of Arts, Sport, the environment, Tourism and Territories commissioned Gordon Grimwade, of Resource Consulting, to record and document carved trees in the newly created Wet Tropics World Heritage Area (Grimwade 1990, 1992; Grimwade et al. 1995). Results of this project are described in Chapter 3. The records made during this time are the primary source of information on rainforest dendroglyphs. Reports produced as part of the carved tree project contain results of field inspections, often conducted with ex-Forestry employees. Recollections by ex-Forestry employees for the sites not visited in the project include mud maps, sketches of motifs and other information. As described in Chapter

3, without this body of information, it is unlikely that many of the rainforest dendroglyphs could ever have been relocated. Grimwade's work is not only valuable record of the existence of the trees, but provides opportunities to investigate the preservation of the carvings and sites over 25 years.

Extending on research completed in 1989 (Grimwade 1990), I undertook an exercise to determine if the carvings were changing through time and to identify the major threats to their survival. I found that the carvings are changing very little, as they are found on some of the oldest trees in the Wet Tropics, with little new trunk growth occurring. While the trees appear to be relatively resilient to the extreme weather events faced in the tropical environment, some of the trees are nearing the end of their life cycle.

Attributes of rainforest dendroglyphs

Rainforest dendroglyphs are very hard to see and to distinguish from natural scars, however this work identified some significant patterns. Carvings are usually, but not always, found on single trees, carved between 0.8m and 5m from the ground level. They are usually found on large trees of six tree species, most often *Endiandra palmerstonii* or *Beilschmedia bancroftii*. A limited suite of patterns appears to have been used. Male anthropomorphs, horizontal parallel lines, arcs, chevrons and ovals are repeated themes. However, this summary of attributes is based on only a small sample and should be refined as more Wet Tropics dendroglyphs are recorded. The newly identified dendroglyphs described here significantly increase the known sample of rainforest dendroglyphs, and it is likely that further research will identify more.

All the Aboriginal custodians I worked with had heard about the trees from their older generations but, except for the Tully Falls dendroglyph and the carvings stored in the Queensland Museum, they had never visited them. Once we started inspecting the motifs, Aboriginal custodians quickly placed their observations of the trees and the environments into their own understandings of the cultural landscape. They recognised symbols within their broader cultural context and identified relationships with body scars and clan designs. Some of the motifs had direct relevance to clan symbols or story places. These observations provide insights into ongoing significance of the motifs as symbols of identity and the living connection to country and culture.

7 Style and social identity

This thesis set out to examine four key questions relating to Aboriginal visual expression and social identity in the Wet Tropics. My results identified a Wet Tropics rock art style, with regional variations. These results suggest that linguistic identity is not reflected in rock art, nor the dendroglyphs, but that there are differences between style on the eastern and western sides of the Wet Tropics.

7.1 Defining a Wet Tropics style in rock art and dendroglyphs

Patterns in motifs can provide insights into the meaning and motivations behind rock art production (Hampson 2015). This section identifies the patterns in rock art and dendroglyph motifs from the Wet Tropics and examines these patterns in the context of their rock art and dendroglyphs and their distribution on the eastern and western sides of the study area.

Common motifs were classified as those that are present in two or more site complexes. Table 7.1 illustrates the presence/absence of common motifs in the Wet Tropics. On the left (shaded dark) are the Western rock art sites, followed by Eastern rock art motifs (not-shaded) and the dendroglyph motifs on the right (shaded light). Bare Hill and the Western rock art complexes have the highest diversity of motif types. This may be a reflection of the relatively high motif counts at these sites. Common motifs seen across all sites are male anthropomorphs, arcs and abstract linear designs.

Anthropomorphs

Male anthropomorphs are among the most common motif in the eastern Wet Tropics rock art, and also make up over 10% of the dendroglyphs. There are distinct parallels between painted and carved male anthropomorphs (see Figure 7.1), particularly the Mount Windsor dendroglyph which would be classified as an anthropomorph in Maynard's (1979) Simple Figurative style (second from the right in Figure 7.1). It has arms and legs protruding from a torso and a head and incorporates features distinct to the Laura 'Quinkan', specifically a helmet shaped head, a bump on at least one knee and exaggerated genitals (Cole 1992:165). Some of these features have also been noted in anthropomorphs painted at Kennedy Valley, Bare Hill and Jiyer Cave (Brayshaw 1990:125; Horsfall 1987). Parallel lines mark the chest of one male dendroglyph, these same 'chest scars' are depicted in five male anthropomorphs at Bare Hill where custodians interpret them as initiation scars (W. Brim pers comm 2014), a feature also seen in paintings of males in Laura rock art (Huchet 1990).

Table 7.1 Presence / absence of motifs in Wet Tropics rock art complexes and dendroglyphs.

| | Melody Rocks | Silver Valley | Mount Claro | Cairns Coastal | Bare Hill | Davies Creek | Mulgrave | Wooroonooran | Mount Windsor | Freshwater Creek | Koombooloomba | O'Leary Road | Charappa | South Johnstone | Dendroglyph other |
|-------------------------------|--------------|---------------|-------------|----------------|-----------|--------------|----------|--------------|---------------|------------------|---------------|--------------|----------|-----------------|-------------------|
| Men | * | * | * | * | * | * | * | * | * | * | | * | | | * |
| Women | | | | | | * | | | | | | | | | |
| Co-joined people | * | | | | | | | | | | | | | | |
| Lizard | * | * | * | | * | * | | | | | | | | | * |
| Macropod | | | | | * | * | | | | | | | | | |
| Possum | * | | | | * | | | | | | | | | | |
| Echidna | * | | | | | | | | | | | | | | |
| Dingo | | | | * | * | | | | | | | | | | |
| Eel | | | | | * | * | | | | | | | | | |
| Cassowary | | | | | * | | | | | | | | | | * |
| Snake | | * | | | * | | | | | | | | | | |
| Macropod | | | | | * | * | | | | | | | | | |
| Possum | * | | | | * | | | | | | | | | | |
| Short vertical parallel lines | * | * | * | | * | | | | | | | | | | |
| Horizontals lines | * | | | | * | | | | | | | * | * | * | |
| X | | | | | | | | | | | | * | * | | |
| Arc | * | * | * | | * | * | | | | | | * | * | | |
| Dots | * | * | * | | * | | | | | | | | | | |
| O | * | * | | | * | | | | | | | | | * | * |
| Barred oval | * | * | | | | | | | | | | | | | |
| Barred comb | | * | * | | | | | | | | | | | | |
| Star | | * | * | * | * | | | | | | | | | | |
| Chevron | | | | | * | | | | | * | | | * | | |
| Trident | | | * | | * | * | | | | | | | * | | |
| X | | | | | | | | | | | | | * | | |

| | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|--|--|---|--|--|--|---|
| Abstract/linear | * | * | * | * | * | * | * | * | | | * | | | | |
| Shield | | | | | * | | | | | | | | | | |
| Sword | | | | | * | * | | | | | | | | | |
| Cross boomerang | | | | | | * | | | | | | | | | |
| Post contact | | * | | | | | | | | | | | | | * |

Female anthropomorphs are not recorded on any dendroglyphs nor in many of the rock art motifs. This was surprising, particularly because of the predominance of women depicted in rock art in southeast CYP and elsewhere (Cole 1992; McDonald 2012). For example, in Jowalbinna, 19% of all anthropomorphs were found to be women. The relative absence of female figures in Wet Tropics rock art is intriguing and worthy of further research.

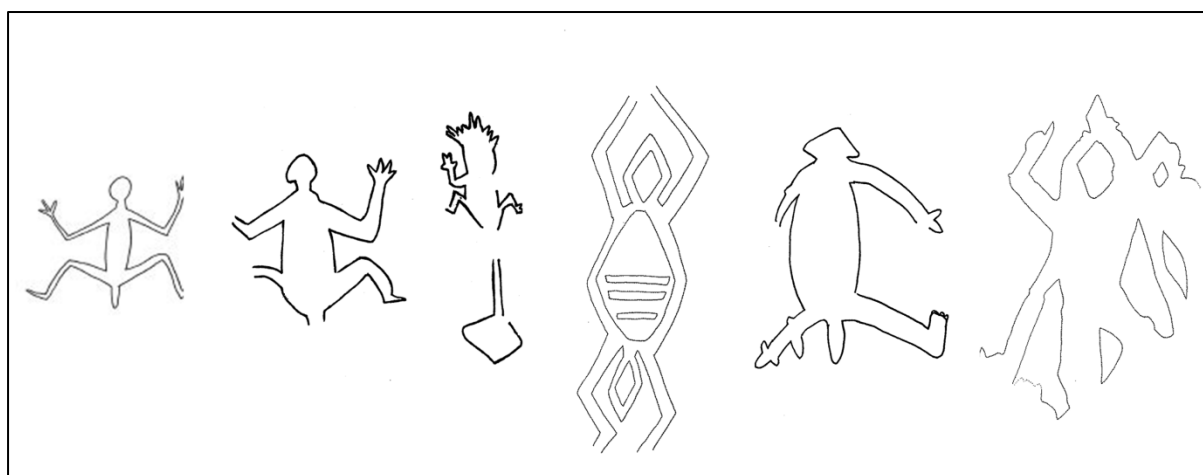


Figure 7.1 Sample of male anthropomorphs in the rock art (on right) and the three recorded male dendroglyphs (on left) (not to scale).

Zoomorphs

Although depictions of zoomorphs are common at Wet Tropics art sites, only lizards are repeated in more than one site complex. Lizards were recorded at each of the Western rock art site complexes, at Bare Hill and Davies Creek and reported by Seaton (1952a) on a dendroglyph. This follows the pattern of SE CYP sites, where lizards were observed painted in every region except for one (Cole 2016). Other categories of zoomorphs common to both the Wet Tropics and SE CYP

are the eel/catfish, bird, dingo, echidna and possum, however in the Wet Tropics these appear to have very limited distribution. There are also notable absences of zoomorph categories in the Wet Tropics, for example, fish, turtle, crocodile and other marine animals.

Parallel lines

Parallel lines are present in both the Eastern and Western rock art of the Wet Tropics and also the dendroglyphs. However, parallel lines are different in the Eastern and Western corpus of rock art. In the Eastern Wet Tropics, rows three - five horizontal, parallel lines tend to be depicted on the torso of male anthropomorphs. These are also one of the most common motifs in dendroglyphs, where they are sometimes they are depicted on their own, and sometimes as chest scars on male anthropomorphs. In Western Wet Tropics rock art, parallel lines tend to be in groups of over 10 short vertical lines. Rows of short, vertical parallel lines, virtually identical to parallel lines recorded at each of the Western Wet Tropics rock art clusters, have been recorded previously in rock art at Chillagoe and Mount Carbine (David 1995; Edwards 2007:67, 93, 168; Winn 2016). At Chillagoe, based on information provided by Wakamin informants, these have been interpreted as initiation scars (Winn 2016). The potential relationship between body scars and horizontal parallel lines is discussed below.

Geometric motifs

Geometric motifs such as arcs, dots, barred ovals and stars (Figure 7.2) are a feature of Western rock art complexes and dendroglyphs, but absent from most Eastern Wet Tropics art complexes. Clusters or rows of dots are present in each of the Western site complexes and Bare Hill. Stars are recorded in two Western and two Eastern rock art complexes. It has been suggested that star motifs painted at Chillagoe represent landscape features, one of which is Turtle Cove, one of the Cairns coastal sites (Ellwood et al. 2013). Ovals were recorded in two of the Western Wet Tropics complexes, and at Bare Hill, but barred ovals and barred combs, both found at Chillagoe but absent from SE CYP (Cole 2016; Edwards 2007), were only recorded in Western sites. Abstract linear designs were recorded at each of the rock art complexes, but absent from dendroglyphs, while 'X' shapes were seen in two dendroglyphs, but no rock art complexes. Chevrons are absent from Western rock art complexes, but present on dendroglyphs and at one of the Eastern rock art sites and also commonly found on rainforest shields (Abernethy 1984:75).

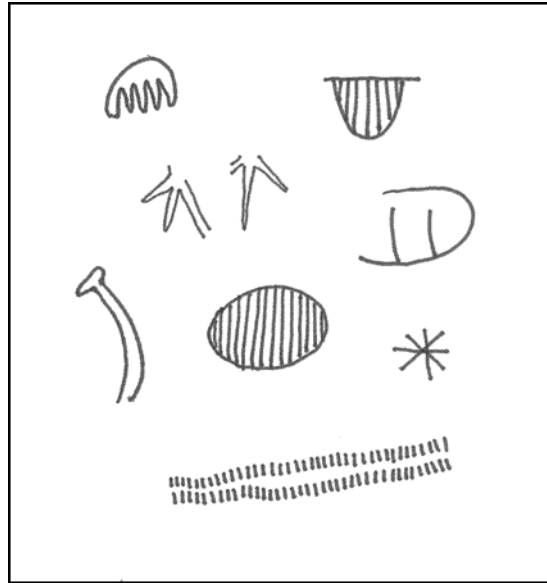


Figure 7.2 Examples of geometric motifs from Western rock art complexes.

Material culture

Paintings of items of material culture in rock art were only identified at the Bare Hill and Davies Creek site clusters. This might be because initiation and other ritual activities took place here, and the shields, sword and cross boomerang were used at these events, but it could also be a reflection of the high density of motif numbers at these site clusters. Although I recorded depictions of a rainforest shield at only at one site (BH5), they have been recorded by others at Brown Bay (Edwards 2007; N. Cole pers comm.). Further detailed recordings may provide a better picture of the presence and distribution of material culture.

The motifs of material culture identified at Bare Hill and Davies Creek are specific to the rainforest and include the shield, large wooden swords and the cross boomerang. We know that shield designs reflect social identities, and the single shield motif painted at Bare Hill has a strong resemblance to shield designs from the area (Figure 7.3). Rainforest shield designs are also painted outside the Wet Tropics region (Buhrich et al. 2016; Goldfinch 2015; Hatte 1992) and a detailed comparison of shield designs depicted in rock art within the Wet Tropics with ethnographic shield designs is worthy of future research.



Figure 7.3 Shield motif from BH5 (left, enhanced with DStretch) and shield collected from the Barron River by Ursula McConnel in 1930s (image courtesy of National Museum of Australia).

Post-contact

A small number of post contact motifs are found in both Eastern and Western rock art sites and in the dendroglyph sample. Aside from the copy-cat art of Davies Creek, post contact motifs were not recorded by me in the Eastern Wet Tropics. However, images of boats have been reported or photographed at Brown Bay and Mount Peter Botte (Cole and David 1992; Seaton 1952a, b; Le Seouf 1897). The single post contact dendroglyph was reported by Grimwade (1990) from a sketch made by a Department of Forestry employee from the remote Mystery Creek area, thought to be a copy of lettering from a glass bottle base found nearby. Two post contact motifs were recorded at Silver Valley, painted only in the last one to two years. These recent motifs represent the significant relationship between rock art and identity for Aboriginal people today.

Summary

The Wet Tropics rock art style is paintings made in wet ochre, most red, of a relatively small number of motif forms. The coastal side of the Wet Tropics features figurative motifs of male anthropomorphs, zoomorphs and material culture while non-figurative designs including lines, geometric and abstract shapes are more likely found on the western side. Macropods, cassowaries and four legged zoomorphs are more common in eastern sites while lizards and

snakes are restricted to the west. Dendroglyphs, while only found on the eastern side of the Wet Tropics, feature geometric designs and also male anthropomorphs. Wet Tropics rock art is also defined by what is absent. There are few confirmed post-contact motifs, engravings or stencils. Female anthropomorphs are noticeably absent in both rock art and dendroglyphs.

7.2 Motifs and the cultural landscape

The relationship of motifs to the broader cultural landscapes were regularly raised in discussions with custodians. These were classified into three themes: body scars, gender and clan symbols.

Body scars

Historical photographs of rainforest men with initiation scars like the photograph on the right in Figure 7.4), stimulated conversation with Aboriginal custodians about the potential relationship between dendroglyphs and body scars. One Mamu interviewee, Stephen Purcell, drew attention to the relationships between dendroglyph motifs of parallel lines and body scars. Talking about the dendroglyphs at Charappa, Mr Purcell noted, ‘they look like initiation scars. You have a look at them they actually started up here. I think some that are in the lower abdomen which were wider around here’.

Mr Purcell was careful to convey that the association between initiation scars and dendroglyphs will probably never be known. Even if it could be demonstrated that parallel lines and opposing arcs engraved into the trees had an association with initiation it is not certain what that association may have been. Do the trees represent people, in the sense that trees could be initiated themselves or were the carvings marking sites associated with initiation? If they do have some association with initiation it also suggests that the trees could be gendered because ‘the females were never initiated (by) scarring of the chest so you could say basically that they were males that would be scarred that way’ (S. Purcell pers comm).

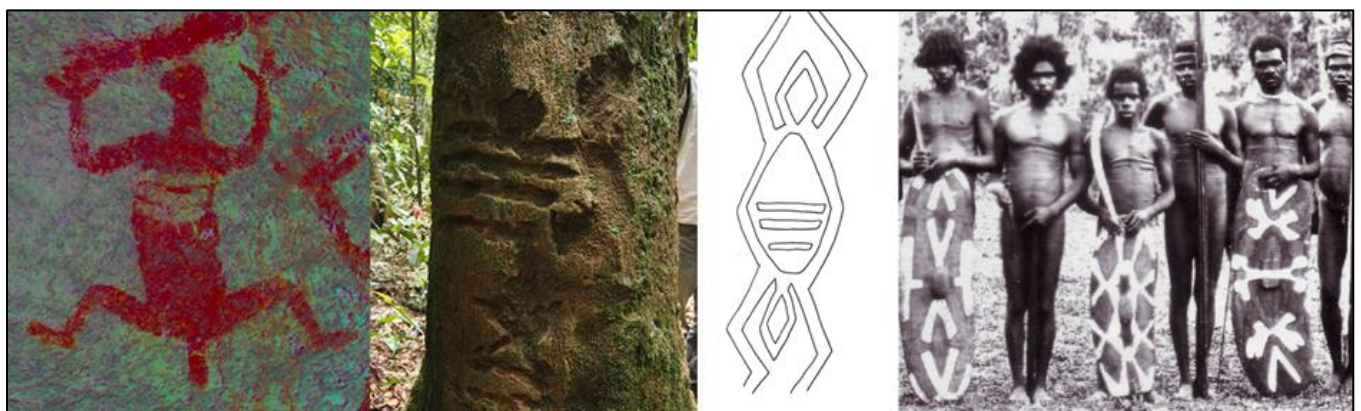


Figure 7.4 Horizontal parallel lines in rock art (from Bare Hill on left), dendroglyphs (both on their own and in association with male chest scars) and initiated men (on right, photograph courtesy of Cairns Historical Society).

Arcs are a common dendroglyph motif and were also observed as body scars on rainforest people. Lumholtz (1889:136) reported body scars including opposing arcs and parallel lines on people in the Herbert River. In the Cairns region, photographer Alfred Atkinson captured an image of an Aboriginal man with opposing arc body scars on his chest around 1890 (Figure 7.5). Twenty years later, Roth (1910:70) recorded, 'half moon' scars on women and men on the Tully River:

Here on the Tully River, there is a half moon cicatrix cut on the buttocks of men who are considered to be expert tree climbers. Such a half moon scar (MAL kanren), which may be supplemented with small horizontal cuts, is said to teach the owner how to climb properly.

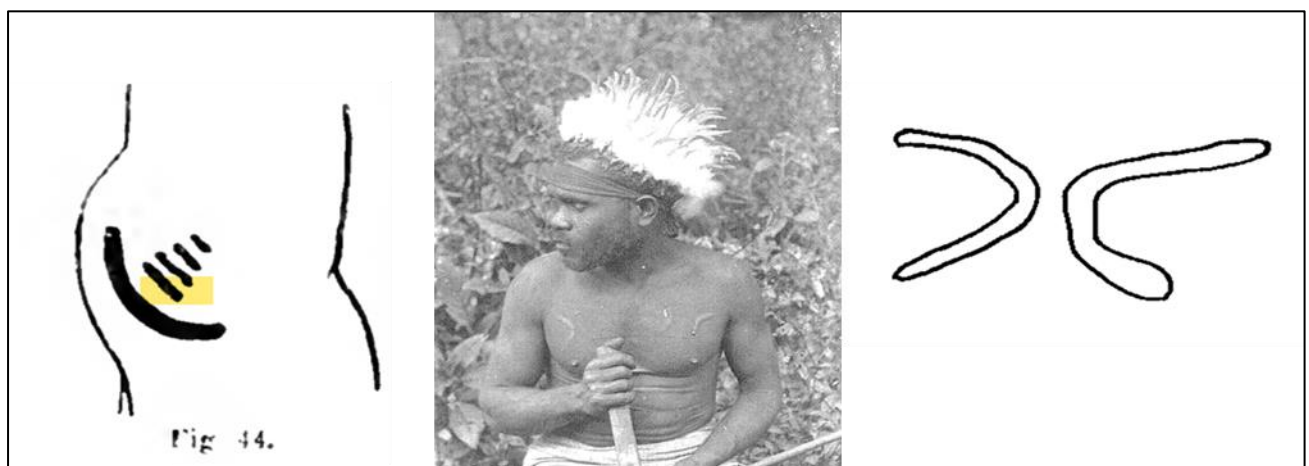


Figure 7.5 Arc on male buttocks recorded by Roth (1910:48) (left), opposing arcs on Aboriginal man from Cairns region photographed by Atkinson c1890s (centre) (Cairns Historical Society) and opposing arc dendroglyphs (right).

Dendroglyphs and rock art also appear to be found in different contexts, suggesting as forms of visual expression they had very different functions. Dendroglyphs, were often carved on trees on Aboriginal walking tracks. Examples are South Johnstone, Mount Windsor and Freshwater Creek. Dendroglyphs seem to be more on display than the rock art, some of which seem to be deliberately avoided by walking tracks. For example, the Davies Creek sites, Cairns Coastal sites, Mulgrave and Wooroonooran sites appear to be deliberately away from rainforest walking tracks while the Bare Hill track to the initiation site comes off a main walking track that links Trinity Inlet to the Lamb Range. Admittedly this is a bit conjecture, as the exact locations of the walking tracks is not known across much of the Wet Tropics.

Gender

Gender was an important component in some of the Wet Tropics languages. For example, in the Dyirbal language, all named objects were classified by one of four genders (Dixon 2015). Rainforest shields were associated with the female linguistic classifier unlike all other fighting weapons which are in the male classifier (Dixon 2015). In Dyirbal the language name for the ‘boss’ of the rainforest shield, the bump in the centre of the shield behind which the handle sits, is the same as the word for female genitalia (Dixon 2015) while the small black diamonds, Hale’s (1989) and Abernathy’s (1984) ‘scallop’, represent women’s breasts (E. Grant pers. comm.). These ‘breasts’, seen as small black diamonds on the shield, are an important design element of many rainforest shields, although these same symbols are identified as ‘scorpion hooks’ in the neighbouring Yidinji culture (P. Bong pers comm.). Decorations on rainforest shields have strong connotations with the female gender, although shields were used only by men. This is one example of the complex relationships between gender and material culture.

Dendroglyphs, on the other hand, were discussed only in terms of male gender by a number of Aboriginal informants. As Jirrbal elder, Betty Cashmere explained (pers comm.), ‘Women weren’t allowed to go. So whether it was close to the initiation or men’s business don’t know’. Rainforest Aboriginal men were known to be exceptional tree climbers, accessing the crown of significantly large trees to obtain seeds, honey and *minya* (meat). It is notable that at least two dendroglyphs were carved between four and five metres up the trunk of large trees, probably made by climbers using lawyer or other vine slings as photographed by Mjöberg (2015 [1918]).

There were suggestions by some of the Jirrbal informants that dendroglyphs represented male sites, and access was restricted only to appropriate men. However, in many cases, the dendroglyphs were carved into trees on known walking tracks and they appear to have been used as ‘signposts’, being placed at eye height or higher and clearly visible to anyone using the track. Stone tools, including grindstones, have been located at some of the dendroglyph sites, suggesting they may have been used as camp sites where women were present. As explained earlier, this apparent discrepancy between the meaning of the dendroglyphs is not unusual and Gitxsan and Moriori informants can interpret a single carving in multiple ways (Blackstock 2001; Richards 2008). In the future, archaeological excavations could target dendroglyph sites to determine whether these enigmatic sites were domestic or ceremonial in nature.

Clan symbols

Both Mamu and Jirrbal informants identify dendroglyphs as clan symbols. When locating a cluster of dendroglyphs at Charappa on the Mamu estate a deep and distinctive trident shape was found (Figure 6.7). The first reaction of one Aboriginal custodian was to identify it as a cassowary track,

and her clan as the cassowary people. 'Cassowary people' were discussed on a subsequent field trip to the Charappa site. According to Dugulbarra elder Steven Purcell:

That's our people from here, that's Dugulbarra totem. Now remembering the main communal area of Jordan Creek um the people that were there were cassowary people. That's how they referred to them as cassowary people. And that's Dugulbarra area all through here. And that's the cassowary foot.

The relationship between the cassowary motif and the cassowary tribe was noted 60 years earlier by Doug Seaton (n.d.) describing a carved tree at nearby Tchuken bora ground.

The carved figures of the panel have been overgrown with a rough bark which could be easily removed. The panel is 4'8" in height with the bottom 5' from the ground. The top and bottom margin of the panel is incised three parts round the tree which is still living. Apart from the giant lizard and reptiles, I cannot determine the other figures. 5'3" above the top of the panel is a carved cassowary without legs. The tribe in this area were known as the 'cassowary tribe'.

Symbols in dendroglyphs and shield designs could have multiple interpretations. As a clan symbol, the cassowary was important for the Dugulbarra clan of the Mamu dialect of Dyirbal speakers. Carvings of tridents on dendroglyphs in the Dugulbarra estate were identified by informants as cassowary tracks representing their clan estate. On the neighbouring Jirrbal estate, the diamond shapes on both shields and dendroglyphs were identified as a symbol for all of the Jirrbal clans. These examples illustrate the use of symbols in clan identity but not language identity.

Summary

Patterns in Wet Tropics motifs show a relatively low diversity of motif types. Some motif categories, such as male anthropomorphs, are distributed across the Wet Tropics in both rock art and dendroglyphs, while others, for example items of material culture, are not widespread. Specific motifs of both geometric and figurative art are found inside and outside the Wet Tropics, to the north, south and west, which may represent social or cultural links that cross major environmental boundaries and language areas (Buhrich et al. 2016). Investigations into repeated motifs such as the hatched ovals from Melody Rocks, shield designs and rows of short parallel lines could be a productive avenue for future research.

7.3 The theatre of rock art

The theatre of rock art describes sensory reactions and the interpretation of sites as part of the secular and ritual fabric of Aboriginal society. Sensory reactions to sites and their surroundings

are of the utmost importance to Aboriginal custodians. One fieldwork participant described how she based her interpretation of the sites on the sounds, smells and overall feeling of a place. She was describing a phenomenological interpretation of place, what Tilley (2004) calls 'theatrical element'. The placement of images, under ledges, in darkness or semi-darkness or in highly visible locations, the types of motifs depicted in sites identified as secular or ritual and a knowledge of the specific belief systems provides an opportunity to explore how the rock art sites and motifs relate to the broader cultural landscape.

Applying phenomenological interpretations, Taçon et al (2014) suggest caves create a womb like environment that make them special/scared landscapes, characterised by 'limen', or a break from the surrounding mundane environment. In the Chillagoe-Mungana limestone belt of north Queensland, Winn (2016) found dark zone rock art to be different to that in the rockshelters or twilight zones. Hand and finger prints, which Aboriginal custodians describe as gender related ritual spaces, were recorded up to 500 metres inside a dark tunnel (Winn 2016:149-50). In a different context, Moyes and Brady (2014) applied phenomenology to interpret site function at the Las Cuevas in Mountain Pine Ridge, Belize, where a cathedral-like entrance through a natural cave beneath a monumental temple creates a 'theatrical venue for public performance'.

Theatrical elements of rock art sites were recorded in the Wet Tropics. One example comes from motifs at the Melody Rocks complex. Dumbun (MR2), so named by the Aboriginal custodian after the spirit figures who were thought to inhabit the site (H. Ludwick pers comm.), is a low overhang containing motifs including large male figures with body scars, waist band and three to five fingers on each hand. The Dumbun site includes an open rock platform with two stone arrangements, suggesting ritual activities may have taken place here. At nearby Balinga (MR3), motifs have been painted in the dark and semi-dark zones and viewing some of the motifs requires shimmying into the dark side passages of the cavern. One motif, repeated ten times at Balinga, was identified as containing restricted cultural information that identifies the ritual use of the site. This contrasts with Diiwan Shelter (MR1), a nearby 'public' site which contains no human representations or motifs that identify a ritual use.

A second example is the Bare Hill complex, where Willie Brim's interpretations of the Bulwandji ritual landscape at Bare Hill describes the change of visibility and form between lower (accessible) and higher (controlled) rock art sites. His interpretation is based on his understanding of *bulurru*, which describes the social and physical fabric as well as the activities of Ancestral Beings. Lower sites are family places and women's sites, they are camping sites which all people could use. Higher sites are part of the male initiation ritual. The lowest gallery, BH1, has a publicly accessible panel of rock art decorated with many colourful figures (Panel A). The

floor below Panel A is stained with charcoal, stone tool debris is abundant and food plants grow inside the shelter. This is described by Willie Brim as a family place, a camping place where men, women and children would sleep and eat. As we have seen, the rock itself is the embodiment and final resting place of Kunandooran. With the help of DStretch enhancement, thirty-eight motifs were identified on the main panel of BH1 and the background wash of red ochre is a result of many more motifs which are no longer visible. Four colours have been used – red, orange, black and white. Abstract shapes and anthropomorphs dominate the rock art assemblage at BH1, including panels of dots, tridents, radiating lines and linear designs. In contrast, the rear, underside gallery (Panel B) is only visible after crawling under a ledge and lying on the steep rocky floor and contain depictions of anthropomorphs, birds and large red arcs, all in red.

Further up slope lies a jumble of granite boulders. One shallow shelter houses paintings of two lizards (BH3). Another is formed by a low but deep shelter with a flat floor and ceiling, which is described as the ‘Boys Waiting Room’ (BH4), a calm, quiet place that provided a reprieve from the intense ritual activity of the site above. Under the overhang, only two feet high, the temperature drops and the sunlight fades. Access is controlled by small entrances and confined spaces. Over 40 images decorate the ceiling of BH4. They are all red, dominated by anthropomorphs, zoomorphs and ‘yam’ shapes that can only be seen when lying on one’s back. Unlike the ungendered anthropomorphs at the galleries below, the people depicted here are all male.

The highest site, physically and metaphorically, is just below the cliff line (BH5). Its entrance is a small dark opening under one of many large boulders scattered on the hill slope. This is the Cassowary Site. Symbols in this shelter are immediately identifiable and have specific meaning in the context of initiation ritual and no abstract or linear patterns are present. Inside, the cave receives no sunlight. Walls and ceiling are blackened with algae and decorated with paintings of large animals and people. The floor is rocky and uneven, driplines stain the wall with natural colour, orange and red, running down the wall from the floor to the ceiling. Willie Brim describes this as the initiation site, where boys would be brought to be turned into men through the ritual of chest scarification. For Willie Brim, the landscape is alive and directly related to the activities that took place at this shelter. For Mr Brim, the driplines at the rear of the shelter represent the blood of the initiates and he describes how the ‘rock, like man, bleeds’.

The paintings at BH5 have clear, sharp lines and little superimposition. Red is the primary colour, and over half of all figures here are anthropomorphs, and a third are zoomorphs. These forms have special meaning in initiation rituals. Anthropomorphs at the Cassowary Site are all males, notably with three or four fingers on each hand. Like Melody Rocks, the number of fingers indicate clever men while parallel marks across their chests are scars of the initiated.

The initiation of rainforest men in Tully was described by Roth in 1910:

The youth lies on his back with head resting on the old man's lap while the lines along which the cuts are to be made are marked out with charcoal. One of the elder men will express a wish to operate and he is chosen, or two may be chosen. At any rate, the operator takes a small flint-flake between his thumb and forefinger and gauges the depth of the proposed incision by the amount of stone projecting. There is a single quick cut for each scar, and while doing it he calls out 'Ku! Ku! Ku! Etc.', this noise being supposed to prevent the youth hearing the sound of the flint as it cuts through the flesh.

In Tully, eel could be eaten only after the male had received his chest cuts and become a ngu-tcha and eel fat was rubbed into the initiation scars (Roth 1910). Wildsoet described how older men would frighten the boys with sounds, stories and light, and as the boys tried to run out to return to camp a basket of eels would be dropped on the heads of the young initiates before they were taken back for the chest scars (Woolston and Colliver 1975). The eel had an important role in the theatre of the ritual of the initiation ceremony, as well as being a significant totem for the Gurrabana moeity.

The cassowary, *boondarah*, is another important symbol for Bulwandji. Willie Brim describes the Cassowary Man as a nasty person who killed children by wringing their necks until the people got together and decided to do something about him. The Scrub Wallaby Man put him to sleep by picking nits out of hair and then cut off his hands with a tomahawk. This turned him into a flightless bird with short arms so he could no longer harm the children. The cassowary continues to be an important symbol of Bulwai identity and is the main symbol on the Bulwai logo.

Macropods are another important symbol. According to Willie Brim, after initiation, the boys would be allowed to participate in the kangaroo hunt on the plateau above. This may not necessarily have been a literal hunting event, but a metaphorical description of the initiates reaching manhood and joining the men. As we have seen, Kunandooran's story holds a warning to women that hunting and use of fire is men's business. The description of the hunt taking place on the plateau is a reference to the ascension of the boy into manhood, the initiation culminates in the kangaroo hunt on the plateau above.

The Bare Hill example provide insights into the importance of stories, cultural knowledge and sensory perceptions in the interpretation of Aboriginal sites. By using an 'ethnoarchaeological' approach (Brady and Kearney 2016) we can begin to understand the relationship between formal or 'archaeological' approaches to documenting rock art and contemporary interpretations by

Aboriginal custodians. At Bare Hill, the form, colour and placement of motifs support the contemporary Aboriginal and ethnographic interpretations of the landscape from secular to sacred. The theatrical or phenomenological elements, combined with Aboriginal interpretations and ethnography, provide an important explanation of place and function. Combining these with formal analyses, such as the form, colour and placement of rock art motifs, is an attempt to bring together formal and informed approaches.

7.4 Rock art: past and present

Several rock art sites in the Wet Tropics are known to have been created or actively retouched in the past 150 years. As seen in the Silver Valley repainting, rock art continues to play an important role in asserting Aboriginal and individual identity in this region. Post contact motifs have a special value in rock art research as markers of historical events and because of the insights into continuity and change that they can reveal. The depiction of praus in Arnhem Land rock art mark the arrival of the Macassans in northern Australia (Taçon et al. 2010) and the superimposition of 'traditional' motifs over contact motifs show that contact art did not replace traditional art but was part of a continued stylistic tradition (May et al. 2010). Sorcery paintings of police at Laura demonstrate the use of visual expression 'to repel the invaders' during the early years of colonialism in Cape York (Cole 2010; Trezise 1971).

Brown Bay

Dudley Bulmer is the only known artist from the Wet Tropics, having repainted Brown Bay images in the 1950s. Bulmer was born in the Starke area north of Cooktown and was forcibly taken to Yarrabah Mission, after living in Starke, Cooktown and Kuranda areas (Wood 2016). Bulmer was a flamboyant character and incorporated a theatrical element to his tourism product, as Seaton described in a letter to Tindale (in Wood 2016:81).

When the tourists arrived at the rock paintings Dudley sprang out from behind the rock wearing a gee string and painted up and yelling like a myall. Cook had to quieten things down. Dudley is certainly an actor.

The Brown Bay rock paintings were just one way in which Bulmer engaged with the tourism industry. He made artefacts for sale to tourists, danced and wore flamboyant headdresses. Mission residents had a history of creating artefacts for sale for tourists. Bulmer had been given permission by Gunggandji elders to 'keep the paintings fresh' (Seaton 1952a), which seems to contradict the idea that an artist could only create rock art on their own traditional estate. Bulmer was an established artist, a sculptor and carver of message sticks, and possibly also learnt the craft of rock painting from his traditional estate north of Cooktown (Wood 2016b) and so he might have demonstrated sufficient ability to retouch the art at Brown's Bay, which others,

affected by the mission, could not. It is not clear whether Bulmer repainted existing motifs, as was the practice in the Wet Tropics (Ward et al. 1999) or whether he created his own motifs. It appears, from descriptions by Doug Seaton, who was present shortly after the repainting, that the event was linked to Bulmer's role in a tourism development at Brown Bay zoo (Seaton 1952a; Wood 2016b). Further ethnographic research in the Yarrabah community about this repainting event may reveal insights into who could paint, what images they artists could produce and the methods used.

According to Thompson (1989:1) 'today Yarrabah people talk of how Captain Cook's visit was recorded by a drawing in a cave above King's Beach'. A second post contact motif at Cape Grafton is an anchor, also reportedly from the Endeavour. In 1952, Seaton (1952a:36) observed Dudley Bulmer's paintings at Brown Bay, one of which

is supposed to represent the anchor lost by Captain Cook when he landed in Mission Bay on 10th June, 1770, in search for water. One of the Irukandji was supposed to have recovered the anchor and recorded the deed in the form of the rock painting.

According to Dixon (1996) this recollection is a mythologization, and it is unlikely that the painting actually depicts Cook's anchor. Certainly, the anchor, if it was retrieved, has never been identified. Neither are detailed records of the Yarrabah ship available publicly, and without examining the painting it is impossible to identify what the ship might actually depict. It is possible that closer examination may identify the type of boat depicted and therefore provide an approximate age of the painting.

Mossman Gorge

More recently, in the 1990s, a rock shelter at Mossman Gorge was painted as a part of a tourism product developed by Eastern Yalanji. Little information is publicly available on the creation of the art site, or the artist and process of making the art. The site forms part of the Ngadiku Dreamtime Walk, which includes a smoking ceremony, demonstration of traditional plant use, bush tucker and ochre and discussion of the special relationship between Yalanji people and the rainforest (<https://www.mossmangorge.com.au/experience/dreamtime-walks>). These examples illustrate that Aboriginal people have not been passive participants in North Queensland tourism products but have .

The rainforest region is emerging as a contemporary Indigenous artistic region, distinct from Arnhem Land, Central Australia, Cape York and the Torres Strait. Contemporary artists are using traditional themes in new media to forge a 'rainforest identity', often featuring rainforest shields

and shield designs, sometimes recreated using historical records such as McConnel and Roth (Åaberge et al. 2014; Rothwell 2015). Rainforest shields are the focus of Paul Bong's 'Murrifactive' series. In this artistic work, shields, some fractured some with bullet holes, are presented as museum objects with accession numbers, reflecting the history of dispossession as rainforest people were removed and artefacts stolen for museum collections. One of these etchings, titled 'Eels and ladders' (displayed in Cairns Regional Gallery in February 2016) illustrates the intersection of identity, art and material culture in the past and the present. It is a zinc etching on white paper with brown and sepia tones. It depicts the top half of a shield, (worn through in places) representing the erosion of culture and the impacts of colonization. As with other shield designs in the Murrifactive series it is stamped in the corner with an Accession Number. The shield is decorated with a geometric diamond pattern, some diamonds are shaded in one half representing the dark triangles or scorpion hooks of the Yidinji shield. Within some of the diamonds are smaller motifs, including the Kennedy character, small anthropomorphic figures with a torso and a head, upraised arms and legs and a rayed headdress. There are differences when compared with the rock art motifs. Bong deliberately does not recreate traditional designs exactly, but incorporates his own personal style. This is primarily to protect himself and his family, as he believes the traditional symbols are powerful and recreating them can affect the wellbeing of the artist and those around him (P. Bong pers comm. 2017).

Silver Valley

Rock art continues to be used to demonstrate cultural identity. The Silver Valley (SV) snake motif, repainted in 2014, is the single largest motif by size and scale recorded in the Wet Tropics. In 2013, I was taken to the Silver Valley sites by Jirrbal representatives as an extension of our work on the carved trees in the Jirrbal estate. Subsequently, Jirrbal people lodged a claim over the entire Silver Valley, including the three art sites included in this research and the western side previously claimed by Mbabaram. The Jirrbal claim was accepted for registration by the National Native Title Tribunal, making Jirrbal the Aboriginal party under Queensland legislation. In 2016, Wabubadda Aboriginal Corporation, representing Jirrbal, reversed a previous decision that the Silver Valley rock art sites not be included in my thesis when they discovered motifs in SV2 had been repainted without their knowledge. The repainting is interpreted by Jirrbal as a statement of ownership by one group over another in a contested native title landscape. The Silver Valley repainting resonates with the 1980s Wandjina repainting in the Kimberley, but a closer examination reveals the issues are quite different. While the Ngarinyin repainting debate focused on the rights of cultural revival over the scientific preservation of archaeological sites Mowljarlai 1992; Mowljarlai and Peck 1992; O'Connor et al 2008; Walsh 1992), the Silver Valley repainting is a direct challenge of ownership between Aboriginal parties. But like the repainting of rock art

in the Kimberley, the 2013 repainting of the snake motif in Silver Valley and the angry response from Jirrbal native title claimants, is a clear statement of how important rock art continues to be in staking claims of ownership and cultural identity in Aboriginal society.

7.5 Style and language

The second aim of my thesis was to investigate how the style of rock art and dendroglyph motifs relate to language groups in the Wet Tropics. Language estates typically ran east to west, incorporating coastal, tableland and savannah environments. The Yalanji, Dyirbal and Djabugay language estates, for example, were composed of clan groups affiliated with the coast, the rivers, tablelands and western fringes of the Wet Tropics. Links between the clan groups meant that people would move between these environmental zones and estates taking advantage of seasonal resources. If language was the key to communication in rock art, one would expect that style would mirror these east – west language alignments, with similar forms being found on the coast and the western fringes in the Yalanji, Dyirbal and Djabugay speaking estates. Dendroglyphs should also follow this pattern. But what was found was quite different, stylistic similarities in rock art run north to south, with figurative forms dominating the eastern corpus while non-figurative forms dominate the western side. Dendroglyphs have a different pattern again. Although only found in the eastern Wet Tropics, where figurative rock art dominates, dendroglyphs tend to have a non-figurative style similar to western rock art. This finding was unexpected and suggests that something other language affiliation is being communicated through visual expression in rock art and dendroglyphs.

Language and other forms of social identity

Language is one the many forms of social identity that exists in Aboriginal Australia. As already discussed it was expected that rock art and dendroglyph designs would reflect differences in language, particularly because language has been identified in other areas as being a key to rock art differences (e.g. McDonald 1994; McDonald and Veth 2013; Winn 2016) and also because languages in the Wet Tropics formed such significant social boundaries, according to Dixon (1983). As Figure 7.6 illustrates, rock art complexes from four major language families were analysed (Yalanji, Djabugay-Yidin, Dyirbal and Warungu). Style clusters were found in eastern (Djabugay-Yidin and Dyirbal language areas) and western (Yalanji, Dyirbal and Warungu) areas. Dendroglyphs are found across the Yalanji, Djabugay, Yidin, Dyirbal and Warrgamay language estates, but they are not found outside the rainforest area.

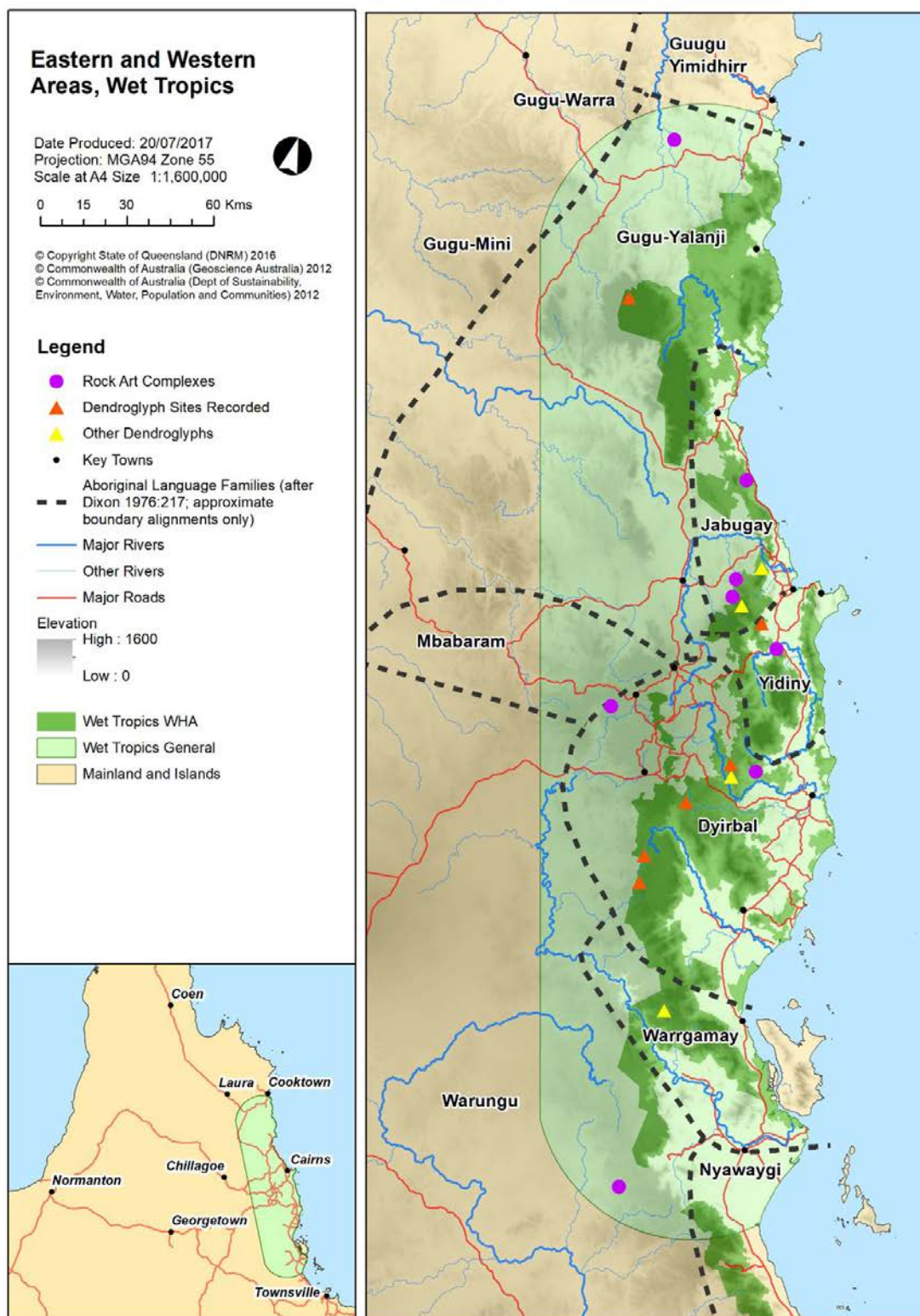


Figure 7.6 Location of rock art dendroglyph sites in language groups in the Wet Tropics

Language is just one form of social identity in Aboriginal society. Smith (1999) identified five intersecting identities held by individuals in Burungu communities in the Northern Territory – language, moieties, clan, nomenclature and the contemporary community. She notes, like Woods (2016b) and Anderson (1987), that language as a social marker has become more important since colonisation while clan identity has become less important because of difficulties in maintaining a physical relationship with land. This has been influenced particularly by the movement of Aboriginal people off their lands, leading to diminishing physical ties to clan estates. It could be that style is reflecting one of these other layers of social identity, rather than language affiliations.

Applying knowledge of social and cultural systems to rock art interpretations offers new insights not available through formal techniques. In Burunga, Smith (1999) found custodianship of rock art was strongly related to moiety in Jawoyn society. Certain colours were affiliated to moieties, with dark colours such as red and black representing Dhuwa, while light colours such as white and yellow represented Yirritja. Each moiety had obligations to the other, including custodianship of ceremony and production of rock art. Dhuwa, custodians of Yirritja ceremonies, renewed paintings on the Yirritja estate while Yirritja, custodians of Dhuwa ceremonies, painted on the Dhuwa estate. With the impact of colonization the moieties remained highly significant regarding responsibility for rock art. In one instance where repainting of a rock art motif was required, Jawoyn approached Ngarrbun speakers, who were the correct moieties but part of another language group, rather than engage Jawoyn speakers of the wrong moiety for the repainting on Jawoyn land. For the Jawoyn, in terms of maintaining rock art tradition, moiety was considered more significant than language affiliation.

Wet Tropics Aboriginal people also had dual moiety systems, illustrated in the language areas of Djabugay, Gunggandji and Yidinji, by the brothers, Damarri and Guyula. Damarri, represented by the Wet season, rain, thunder, lightning, toxic plant food and the moon, was associated with the colour white, while Guyula, represented by the Dry season, meat, fire and sun, was associated with the colour red (Bottoms 1990:57). Red and white are the only colours used at BH5, identified as an initiation site by custodian Willie Brim, while four colours are used at BH1 (Panel A), the ‘family campsite’, nearby. Comparing BH5 and BH1 reveals further differences that could reflect the ‘closed’ ceremonial nature of BH5 and the ‘open’ campsite at BH1 (Table 7.2). BH5 has little superimposition, compared to BH1. Abstract designs such as barred circles, meandering lines and clusters of dots form a third of all recognizable motifs at BH1, while 31 out of the 38 motifs painted at BH5 are zoomorphs and male anthropomorphs.

The research revealed that style in rock art and dendroglyphs is closely tied to identity, but that language is not the identity that is being reflected. The Wet Tropics follows a pattern similar to

that seen elsewhere on Queensland's east coast. For example, Cole (2016) and Brady (2008) also found no relationship between language and rock art in Laura and Torres Strait respectively. Cole's (1998, 2016) long term research on rock art style in the Laura sandstone identified greater numbers of abstract motifs and more stencils to the west compared to the figurative painting on eastern side. Notably, the macropod motifs were absent from western rock art (Cole 1998), while Brady's (2008) analysis of rock art and material culture motifs in the Torres Straits found Papuan influences in western sites that reflected the 'cultural divide' between horticulturalists and hunter gatherers rather than language.

Table 7.2 Comparison of motifs at BH1 (Panel A) and BH5.

| | BH1 (n. 38) | BH5 (n.38) |
|---------------------|----------------------------|------------|
| Superimposition | 36 | 15 |
| Colours used | Red, orange, yellow, white | Red, white |
| Abstract | 12 | 0 |
| Zoomorphs | 0 | 13 |
| Male anthropomorphs | 7 | 18 |

A further illustration of how rock art style does not reflect language areas is seen in some of the recent linguistic work in Cape York and the Gulf Country. Alpher's (2016:40) map of Alaya-Athima (Thaypanic) languages includes the lower Normanby catchment at Princess Charlotte Bay, the west Quinkan Reserves, Maytown on the Mitchell River and Abingdon Downs in the North Queensland Highlands. This linguistic area intersects a number of rock art provinces. As further research is conducted on the scattering of poorly documented rock art along the east of Cape York Peninsula and offshore islands, it appears likely that the whole north Queensland east coast from Cardwell north to the Torres Straits will eventually be considered a province of an 'east coast' figurative painted style that incorporates many Aboriginal languages.

The totemic landscape

Totems are highly significant in Cape York and strongly related to clan identity. As described previously, clan identity was linked to totems in Princess Charlotte Bay and the Torres Straits (Brady 2010:401; Sutton 2016:99). This suggests that in some instances, perceiving rock art as an expression of language identity could be overly simplistic and ignores the complexities of the multiple identities a person could hold. Totemic and moeital affiliations cut across language areas and link individuals inside and outside social groups. It is not surprising then that Officer (1992) found stylistic boundaries in New South Wales rock art changed when different forms were analysed, or that Cole (2016) concluded there are no regional stylistic boundaries in southeast Cape York Peninsula's rock art. Gunn (2011) and Gunn et al. (2017) have investigated the

relationship between custodial ownership and rock art style in two parts of Australia. They found that style does not coincide with traditional custodial ownership in either the Eastern Arrente custodial lands or the Nyungan lands of southwest Australia. However, in other parts of Australia there seems to be correlations with clan groups and language dialect, for example, Western Arnhem Land and the Sydney-Hawkesbury region (McDonald 2008; Taçon 1993).

The distribution of dendroglyphs across Yalanji, Djabugay-Yidinji and Dyirbal estates suggests that carving living trees was practised across at least three of the four major language areas identified by Dixon (1976, 1983, 2015). Their existence on the eastern side of the Wet Tropics is likely a factor of the specific tree species that were chosen to carve. Compared with the rock art, dendroglyph designs, found only in the east, appear to be most similar to the western rock art motifs. However, this observation is an oversimplification of the data. Parallel lines, arcs (often paired) and chevrons make up nearly half of all dendroglyph designs but of these motifs, only arcs and parallel lines appear in the rock art record. Arcs in the rock art are never displayed in pairs, but usually occur in this way on dendroglyphs. Parallel lines are usually depicted vertically in the rock art but only depicted horizontally as dendroglyphs. While there are differences between rock art and dendroglyphs, there are also similarities, particularly in the depiction of male anthropomorphs (as described above).

The distribution of rock art cannot be simply ascribed to totemic affiliations. If it was, it would be expected that style would reveal differences between the Djabugay/Yidin/Gunggandji group and the Dyirbal language speakers, as each had different creation stories and creation heroes. In the Dyirbal creation story, Girugarr came from the south, travelling from Cardwell to Innisfail and on to the Barron River while the Yidinji, Djabugay and Gunggandji came from the north by boat (Dixon 1996). The relationship of motifs and oral history is an area worthy of further investigation. The cassowary, and Kennedy figure/ Quinkan/ frog shaped anthropomorph would be excellent candidates for such as study.

7.6 Provinces, precincts and points of intersection

The third key question investigated in this research is concerned with how the style of rock art in the Wet Tropics fits with the surrounding major stylistic provinces. It is thought that by the mid Holocene, social identity was associated with rock art styles in surrounding areas of north Queensland including Laura, Koolburra, Ngarrabullgan and the Mitchell/Palmer (Cole 1998; Cole and David 1992; David 1991; David and Chant 1995; David and Lourandos 1998). There are significant differences between the figurative painted tradition at Laura, the non-figurative painted tradition south of the Mitchell-Walsh watershed and the stencil art west and southwest of the Wet Tropics in the Einasleigh Uplands and the central Queensland Highlands. The presence

of ochre in basal deposits from excavations of cultural material in the rainforest (Cosgrove 2007; Horsfall 1987) is evidence that an artistic tradition was present with the earliest rainforest settlement in the Late Holocene. This suggests that the people who settled the rainforest came with some stylistic tradition.

The Wet Tropics as a rock art precinct

As we have seen, the dominant rock art technique used in the Wet Tropics is painting. When compared with the surrounding north Queensland style provinces the ratio of painting, engraving and stencil art in the Western and Eastern Wet Tropics is consistent with the rock art recorded at the Palmer and Mitchell Rivers and similar to the Endeavour – Normanby River, Ngarabullgan, Torres Straits and Chillagoe (Brady 2010; David 2002; Cole 1998). However, it is very different to Koolburra and the north Queensland Highlands, both of which feature stencil art which is rare in the Wet Tropics (Cole 1998; Lovell-Pollock 1997).

Table 7.3 Distribution of technique by percentage (Brady 2010; Cole 1998; David 1995; Lovell-Pollock 1997).

| | Koolburra (Cole 1998) | Deighton (Cole 1998) | Endeavour Normanby (Cole 1998) | Eastern Laura (Cole 1998) | Chillagoe (David 1995) | Mitchell (David 1995) | Palmer (David 1995) | Ngarabullgan (David 1995) | Torres Straits (Brady 2010) | Eastern Wet Tropics | Western Wet Tropics | North Queensland Highlands (Lovell-Pollock 1997) |
|------------------|-----------------------|----------------------|--------------------------------|---------------------------|------------------------|-----------------------|---------------------|---------------------------|-----------------------------|---------------------|---------------------|--|
| Painting | 20 | 80 | 95 | 66 | 88 | 93 | 93.5 | 83 | 100 | 100 | 96.5 | 4 |
| Stencils | 60 | 14 | 5 | 14 | 0.5 | 5 | 0.5 | 12 | 0 | 0 | 3 | 80 |
| Engraving | 20 | 6 | 0 | 20 | 11.5 | 2 | 6 | 5 | 0 | 0 | 0.5 | 16 |

Comparing form across the north Queensland style provinces is difficult, due to inconsistencies in the way rock art is categorised. For this research, Level 1 categories (as described in Chapter 5) were chosen because they can be compared to previous work by Cole (1995) and David (1998) who investigated style and regionalism for their doctoral research in north Queensland. As seen in Table 7.4, the high count of figurative paintings at Eastern Wet Tropics sites fits with the pattern seen at Palmer, Mitchell, Mossman and Laura Rivers. The high non-figurative count in Western Wet Tropics art sites is consistent with the rock art recorded by David (1995) at Ngarabullgan and Chillagoe

Comparison of form in Wet Tropics art to the surrounding style provinces identifies a possible relationship between the Eastern Wet Tropics and SE CYP, and the Western Wet Tropics with the Chillagoe-Ngarrabullgan non-figurative tradition. However, this appears to contrast with the distribution of technique, which identifies relationships between Western Wet Tropics rock art and the Mitchell-Palmer region of SE CYP. Clearly it is time for a major update on the distribution of style provinces in North Queensland incorporating recent published and unpublished research (Brady 2010; Gigacz 2012; Lovell-Pollock 1995; Wade et al. 2011; Winn 2016) and extending further south to Townsville and the Whitsunday Islands (Brayshaw 1990). A more useful model to understand art in the Wet Tropics region is outlined below.

Table 7.4 Comparison of Level 1 form (Cole 1998; David 1995).

| | Koolburra (Flood in David 1995) | Laura (Maynard in David 1995) | Mossman River (Cole 1998) | Chillagoe | Mitchell (David 1995) | Palmer River (David 1995) | Ngarrabullgan (David 1995) | Eastern Wet Tropics | Western Wet Tropics |
|-----------------------|---------------------------------|-------------------------------|---------------------------|-----------|-----------------------|---------------------------|----------------------------|---------------------|---------------------|
| Figurative | 67 | 80 | 93 | 1 | 85 | 86 | 9 | 72 | 12 |
| Non-figurative | 12 | 17 | 7 | 89 | 12 | 13 | 85 | 18 | 88 |
| Tracks | 21 | 3 | 0 | 10 | 3 | 2 | 6 | 0 | 0 |

In between the provinces

Taçon (2013) identifies junction zones as small internally consistent rock art bodies or rock art in landscapes where different groups interacted. These are similar to the ‘zone of engagement’ discussed in Buhrich et al. (2016) which could provide significant information on the use of motifs to negotiate social interactions. Taçon (2013) demonstrates that junction zones exist in Australia and Borneo and they contain fewer sites and motifs but with higher diversity of style and techniques. In SE CYP, Cole (2013:78) identified diffuse rather than abrupt stylistic changes within the Quinkan rock art province. She calls these ‘geographical and cultural transition zones’ that reflect shared country, according to the ethnography (Cole 2016:78). In contrast, Winn (2016) identified the Chillagoe-Mungana region as a junction zone between SE CYP, North Queensland highlands and the Wet Tropics. Winn describes the Chillagoe-Mungana limestone belt as a shared zone where different groups came together, and identified different rock art

styles and techniques on the east and west sides of the Chillagoe-Mungana limestone that mirrored Djungan and Wakamin tribal boundaries. As junction sites, or zone of engagement, Melody Rocks, Mount Claro and Silver Valley have the potential to reveal information and regionalization and relationships between the larger style provinces.

Melody Rocks, at the far northwest of the study area has the most diverse forms of rock art technique recorded at any of the Wet Tropics site complexes. These include painting in both figurative and abstract styles, small numbers of stencils and the single cluster of cupules. Melody Rocks is near the important meeting ground of King's Plains, where people from the rainforest and SE CYP came together (Anderson 1984). Melody Rocks contains elements of both SE CYP and Mitchell-Palmer styles with stencils, anthropomorphs (including a co-joined couple), zoomorphs, barred ovals and short parallel vertical lines.

Mount Claro, situated between the Eastern Wet Tropics and the North Queensland Highlands, would be expected to have elements of both figurative and stencil art. However, only a small number of stencils were present, and these are always under painted motifs, suggesting they are part of an older style tradition. The stenciled weapons, which Brayshaw named 'langeels', are not recorded in the recent material culture of the area (Brayshaw 1990). Future research could investigate the presence of the langeel in the stencil art of the Georgetown to the west, perhaps illuminating past relationships between the savannah and the Wet Tropics.

Silver Valley's location suggests it would be an ideal location to explore the in-between junction between two very different language groups, Dyirbal and Mbabaram. Both language groups incorporate rainforest in to their estates. The Dyirbal speaking estate extends east to the coast while Mbabaram extends to the west and is part of the initial consonant dropping language shared by Ewamian and Wakamin in the north Queensland Highlands and Chillagoe. However, even within the initial consonant dropping languages there appears to be quite diverse rock art style, with Mbabaram using non-figurative designs (e.g. Walsh's River (Gigacz 2012)) and Ewamian making almost all stencil art (Buhrich 2015f; Lovell-Pollock 1995, 1997).

Bare Hill has the greatest variation in motif style. The presence of motifs from both the eastern and western precincts at Bare Hill suggests that this site complex, in terms of rock art style, could be considered a junction zone. For example, short vertical parallel lines recorded at each of the western sites and Bare Hill, also common in the Ngarrabullgan and Chillagoe. The figurative male anthropomorphs and zoomorphs are strikingly similar to the SE CYP Simple Figurative style. However, the site physically sits in the core of the Bulwai territory. The Bulwai name for the site complex, *Bunda Bibanji* (babies from here) indicates just how strong the attachment is to place. Despite the apparent variety of style in the rock art, this is not a site on the edge of the estate.

In Chapter 5, there is a description, provided by W. Brim, of the role of the rock shelters in the initiation ceremony. It is tempting to speculate on why these apparently 'out of place' motifs are seen at Bare Hill, where there is an initiation site. For example, short vertical parallel lines, recorded at each of the western sites and Bare Hill, are also common in the Ngarrabullgan, Chillagoe and Mitchell-Palmer. Arcs and dots are recorded at each western site and Bare Hill, while lizards and star shapes are also present at western sites and Bare Hill/Davies Creek. It is possible that the rock art reflects shared initiation ceremonies with people from neighbouring areas to the north, but not the west, where stencil art is prevalent. Further research is warranted on the significance of the Bare Hill sites to the broader Aboriginal population, beyond the Bulwandji.

Issues with regional boundaries of style

How we draw boundaries has a major effect on the outcome of research. If this research was confined to the rainforest environmental zone, rather than language areas, the results would identify a 'rainforest' style of rock art. If boundaries representing the sections or moiety systems were drawn, the differences in figurative versus non-figurative seem to align, with the eastern side having a two-section system and the western side a four-section system. Like rock art style, differences in environment and sections do not align with language estates.

As discussed in Chapter 2, language has become the key social identifier in Aboriginal Australia in the last 60 years. Anderson was able to trace the shift in Yalanji society from their *bubu* (patrilineal clan estate) to 'nations' based on drainage systems that led to the identity of Kuku Yalanji. This was the case, not just in Queensland, but also in Western Australia (see also Bird Rose 1992; Wood 2016a).

Closer investigation might reveal differences between languages that were not identified in this regional study. Still, it seems unlikely that future research will identify changes in style that align with Dixon's (2008) sharp linguistic boundaries such as the Russell River. Evidence from rock art and dendroglyphs suggest a strong alignment of symbolism in coastal groups such as the Quinkan, frog, Kennedy character and cassowary, while western groups shared others such as short vertical parallel lines, lizards and stars. Dixon remains the authority on linguistics in the Wet Tropics region due to his extensive fieldwork and published outputs, however the value of equating 'language group' with social identity has been questioned. Sutton and Koch (2008) propose weak 'regional' boundaries of people who marry, initiate together, and who are linked by mystical pathways. This appears to be reflected in the patterns of visual expression and may be a more appropriate way of interpreting the relationship between symbols.

Our current systems of dealing with Aboriginal people are strongly influenced by own political landscape. Native title groups, who are usually united through language, are recognised as the conduits to appropriate Aboriginal people to speak for country and this is reinforced through State legislation. For this research, collaborations with Aboriginal parties have required working within certain language estates, where the boundaries of a language estate are identified by the Aboriginal party. It is difficult to know whether these boundaries have been consistent since the arrival of Europeans, as forced removals during the Protection Era and, more recently, native title have irretrievably influenced political alignments of Aboriginal groups in the Wet Tropics.

7.7 'Strings' not 'blocks': implications for theory

The major theoretical implication of this research is that Information Exchange, as described by Conkey (1990) Smith (1992) and Wobst (1999), does not apply to rock art and dendroglyphs of the Wet Tropics using the language model proposed by Dixon (1983, 2009, 2015). What these examples reveal is that identity is multifaceted, consisting of layers of affiliations that extend beyond language groups. It was expected that heterogeneous styles in visual expression would reflect the network of 'closed' social groups, demonstrated by the small language estates. However, the pattern that emerged is that rock art stylistic areas in the Wet Tropics are independent of language or other obvious aspects of social identity. So, if not Information Exchange, is there a better model that could be used to interpret patterns in rock art style?

In her ethnographic study of the Yarralin in the Victoria River District, Bird Rose (1992:53) investigated relationships of people, place and beliefs and describes speaking of Dreaming 'strings' that linked people to country, 'demarcating human and geographical identity. Some Dreamings belong to a particular locality while other travelled through many areas establishing connections between them.' The movement of ancestors across the Aboriginal cultural landscape is evident within the Wet Tropics. One ancestor, Kuyam (also spelt Ku Yam, Kwoiam or Kuiyam), features in oral history from Yidin, at Cairns, to the western Torres Strait islands. In Yidinji oral history, Kuyam fought Djumbun the scorpion at Trinity Inlet near Gimuy (Cairns). Kuyam defeated Djumbun, who turned into Bunda Djunbunji, while Kuyam travelled north to Cape York and then onto Torres Straits (told by Seith (aka Gudju Gudju) Fourmile, KickArts 2009). Different versions of the story in Torres Strait have either Kuyam or his father arriving from the southern mainland and being a ruthless warrior who was feared from Papua New Guinea to Cape York (told by Brian Robinson, KickArts 2009; see also Greer et al. 2015; Shnukel 2008:58; Thomson 1957 and McConnel 1936). This story has been retold to me during my fieldwork to demonstrate the links from the rainforest to the north. Although the connection between Kuyam in the Wet Tropics and the Torres Straits is likely to have had a complex development, this example does illustrate the links that contemporary Aboriginal people themselves identify, connecting the Wet Tropics

to the broader region. It suggests perhaps we should be looking for strings of social networks in the rock art rather than blocks with defined boundaries.

Ingold (2011) argues that connections form the 'meshwork', or the web of life that connects individuals. For Ingold (2011:84), 'meshwork' is the residue of people's movements and rhythms, their interactions with world. Hodder's (2016) theory of entanglement takes this idea further, by describing four components of dependency between people and things, the most significant being the interactions between 'things and humans', which provide a framework for understanding the relationship between culture and nature. Entanglement theory is particularly applicable to the rainforest, where the environment was shaped by people (e.g. through fire see Hill and Baird 2003; Hill et al 1999) and culture was influenced by the environment (e.g. material culture for processing toxic nuts, physical stature affected by the rainforest diet, Cosgrove 1996, Ferrier and Cosgrove 2008, McGregor 2016; Tindale and Birdsell 1941). Furthermore, the Aboriginal walking tracks that criss-cross the rainforest are tangible evidence of the 'strings' that connected people and environment, while relationships between individuals are the 'meshwork'. Tracing the routes of the Aboriginal walking tracks could provide information on the 'strings' of connection between groups, while genealogies could provide insights into the 'meshwork' that supported these relationships.

Investigation of motif distribution might identify some of the 'strings' that may follow social networks. One example is the male anthropomorphic figures illustrated in Figure 7.7. On the left is the classic 'Imjim Quinkan' figure described by Trezise (1993), which, as previously noted, is identified by characteristics such as a helmet shaped head, upflung arms and legs, and exaggerated appendage. This resonates with characteristics also seen in male anthropomorphs from the eastern Wet Tropics. For example, B and C, from Bare Hill, and D and F from Herbert River show similarities to the male 'Quinkan' figure in A. The headdress or hair style in C is also similar to that seen in E, recorded at Kennedy. The presence of outrigger canoes from Cape York to Cape Grafton (Roth 1910) illustrates shared technical and probably cultural knowledge along the entire north Queensland coast.

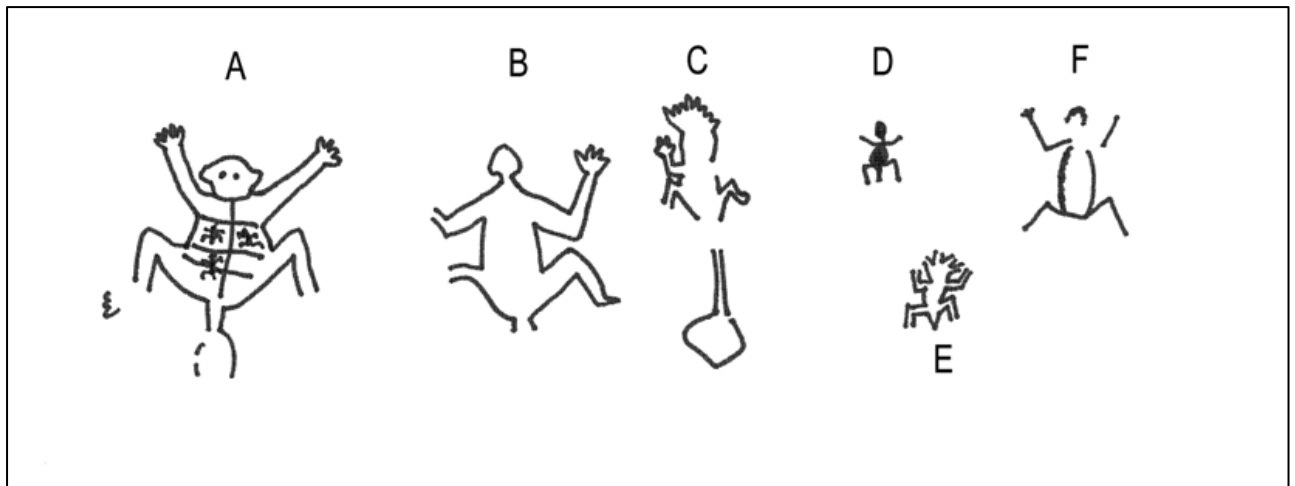


Figure 7.7 Anthropomorphs from (A) Laura (Trezise, 1993), (B, C) Bare Hill (Buhrich 2014) and (D, E, F) Herbert River catchment (Brayshaw, 1990:128, 142) (not to scale) (Buhrich et al. 2016:35).

Coastal links along the east coast from the Wet Tropics north could also explain a cassowary motif recorded in a rock shelter at Princess Charlotte Bay (Hale and Tindale 1933). Cassowaries are only found in rainforest environments and in Australia today (and in the recent past) cassowaries are only found in the Wet Tropics World Heritage Area and in the Iron Range, MacIlwraith Range and Cape York. River systems run from the MacIlwraith Range into the northern part of Princess Charlotte Bay, and it is possible that the artist was recording a cassowary from the north. However, the cassowary motif in Princess Charlotte Bay and those recorded in the Wet Tropics (Figure 7.8) appear to be so similar that they could have been created by the same artist. One unusual feature is the short 'arms' depicted on both images. As previously noted, cassowary wings are not easily seen when looking at the animal, they are tucked into the body of the bird and not a noticeable feature. But these short arms are a feature in the Bulwandji cassowary story, where the cassowary arms were cut off by vengeful people to prevent it from stealing their children. A cassowary motif recorded in rock art near Cardwell shares the same feature (Gunn and Thorn 1994:201). Perhaps this is not surprising as significant exchange routes along the east coast, and shared technology reflected in the use of dugout outrigger canoes from Cape York to Cape Grafton (McCarthy 1939: 417, Map 5).

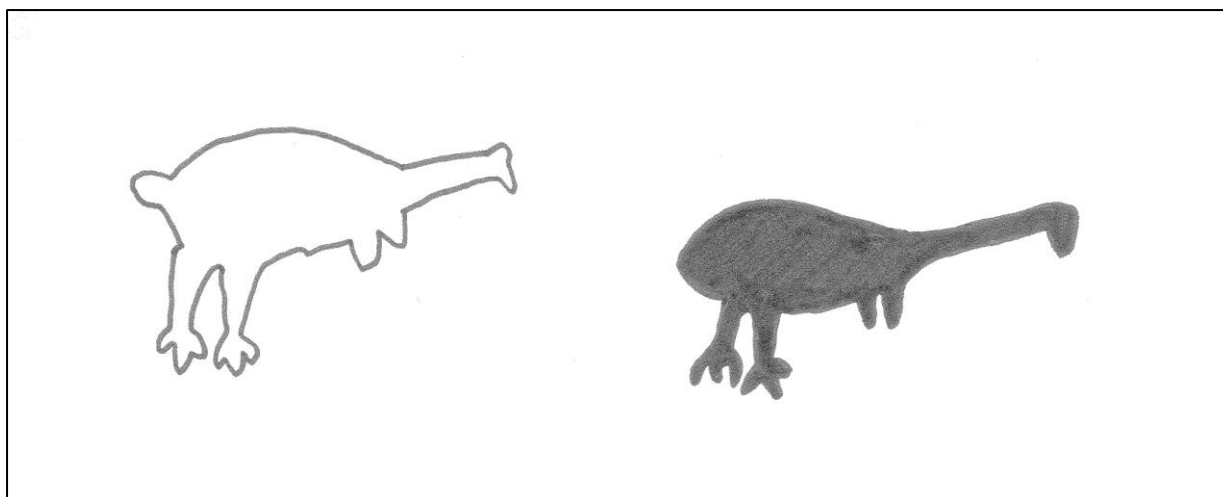


Figure 7.8 Cassowary motif from Bare Hill (on left) and Princess Charlotte Bay (on right, from Hale and Tindale 1934:149).

Rainforest shield motifs in rock art could be another example of the strings that linked Aboriginal groups. To the south of the Wet Tropics, the rainforest shield motif is recorded in rock art depictions near Townsville, well south of the existing rainforest boundary (Buhrich et al. 2016; Goldfinch 2014; Hatte 1992). By comparing the designs on painted shields from museum collections, Goldfinch (2014) demonstrated that the shield designs in the rock art are most similar to the designs painted on shields in the Innisfail region, rather than those produced in the rainforest areas closer to Townsville. We know from historical records that there was interaction between 'rainforest' groups from Cardwell south to Townsville. This ability for linguistic exchange was undoubtedly a result of ongoing interaction and exchange between people of the southern Wet Tropics at least as far south as Cape Cleveland, perhaps illustrated in the rock art depictions of rainforest shields.

But rock art style does not simply follow trade and exchange routes. For example, if there was a relationship between rock art style and the western exchange route described by Roth (1918) stencil art would be expected in the Eastern Wet Tropics. Roth (1910:18) described exchange between the Wet Tropics and the Gulf country, in the form of pearl shell ornaments 'said to have reached the Mulgrave River via Atherton and Herberton where it was believed to have been brought from the Gulf Country'. An exchange network between the Gulf and the Wet Tropics almost certainly would have intersected with the north Queensland Highlands, a province of rock art dominated by stencils and engravings, which are absent from Eastern Wet Tropics art and only present in small numbers in the Western Wet Tropics art assemblage. It is possible that the stencils (superimposed with non-figurative paintings) at Mount Claro are part of an older stencil art tradition that may be connected to the north Queensland Highlands. Very little published

information is available on rock art of the north Queensland Highlands, and much of the area remains to be surveyed for rock art. Identifying items of material culture in the north Queensland Highlands and their presence in surrounding areas could reveal information about interactions.

Connections to the east, west, north and south

My results found no alignment of language and rock art and dendroglyph style. While there are patterns in the distribution of rock art, with a figurative style of painting in the eastern coastal strip and a non-figurative painting style in the west, these do not align with language and a single language group, such as the Dyribal, could have both Eastern and Western styles. Furthermore, symbols on the Eastern side of the Wet Tropics, such as the Quinkan/cassowary and rainforest shield motifs, are also seen to the south and north of this region, while symbols found in the Western style rock art, such as stencils of material culture and rows of short, parallel vertical lines, are also seen at Ngarrabullgan and Chillagoe. These results suggest that rather than thinking of rock art style 'provinces', the rock art of the Wet Tropics is connected to neighbouring areas through motif form and could be considered as 'strings of connection'.

8 Implications of working alongside custodians as collaborators

The methodology of 'working alongside' involved developing mutually beneficial projects with each relevant Aboriginal party. Sometimes these projects were directly related to my research aims and sometimes they were tangential but were the currency through which I gained access to the work I needed for my project. This resulted in a range of outcomes, from management, training, capacity building, grant funding and exploring new recording techniques. This approach also had its challenges, especially as a regional approach was adopted which required multiple engagements with different traditional owner groups and effectively the completion of a number of sub-projects, each with their own logistical and political issues. In this chapter, I discuss some of the challenges and outcomes arising from this approach.

8.1 The projects

Nine Aboriginal parties collaborated in rock art and dendroglyph projects in the Wet Tropics (Table 8.1). Individual projects were conducted with the relevant Aboriginal parties, including locating sites, ranger training, formal catalogues of motifs, assessments of potential development impacts (such as mining) and collating historical information. In some instances, these existed side-by-side with my project, essentially operating as two individual projects, with different but aligned aims that could be conducted at the same time.

Fieldwork sometimes 'piggybacked' on existing projects. For example, the James Cook University Rock Art Field School, held at Mount Claro in 2013 and 2015, was an opportunity to re-record the sites as part of a teaching exercise with undergraduate students and Indigenous rangers. Melody Rocks was recorded at the request of South Endeavour Trust in response to a mining lease recently granted by the Queensland Government. The Melody Rocks project was more like a consultancy, where the methodology was pre-determined and the Aboriginal party invited to attend. Tailoring the research design, implementation and dissemination of information with each Aboriginal party was key to the successful collaboration with Aboriginal parties.

One of the significant outcomes of the research for Aboriginal parties was simply providing an opportunity for senior and junior Aboriginal custodians to be 'on country' together. The representatives were nominated from within the community, and followed cultural protocol. In four of the seven groups, field trips involved the presence of an Uncle and his nephew(s) or niece, thus facilitating an important inter-generational knowledge transfer.

Table 8.1 Projects completed with the Aboriginal parties.

| Community | Year | Funding | Outcomes | Report |
|--|------|--------------------------------|---|---|
| Mamu | 2013 | 2013 WTMA Student grant to AB | Located cluster of dendroglyphs (Charappa site). Funding for four Mamu representatives under direction of Elders. | Buhrich, A. 2013a. Mamu Carved Trees. |
| Wabubadda PBC (Jirrbal community) | 2013 | 2013 WTMA student grant to AB | Compared Grimwade's cast to living tree. Interviews with Betty and Cedric Cashmere. | Buhrich, A. 2013b. Preservation of the Charmillon Creek Carved Tree. |
| Mamu | 2014 | 2014 WTMA student grant to AB | Located Maple Creek dendroglyphs. Funding for Mamu representatives to clear tracks under direction of Mamu Elders. | Buhrich, A. 2014d. Maple Creek Carved Trees, Wooroonooran National Park. |
| Bulgan Warra | 2014 | South Endeavour Trust | Assessment of potential impacts from mining lease. | Buhrich, A. and N. Winn 2014. Melody Rocks: Cultural Heritage Assessment. |
| Wabubadda PBC (Jirrbal community) | 2014 | | Document Silver Valley rock art with Jirrbal Elder and his nephew. | Buhrich, A. 2014c. Silver Valley Rock Art. |
| Willie Brim representing Bulwai | 2014 | 2014 WTMA student grant to AB | Applying DStretch to Davies Creek rock art. Funded Bulwai Elder and his nephew. Land management activities (burning) took place during this visit. | Buhrich, A. 2014a. A New Look: Davies Creek rock art enhancements. |
| Willie Brim representing Bulwai | 2014 | 2014 WTMA student grant to AB | Motif and site recording and documenting cultural knowledge, Davies Creek with Bulwai Elder and his nephew. | Buhrich, A. 2014b. Davies Creek rock art records. |
| Western Yalanji Aboriginal Corporation | 2015 | Graduate Research School (JCU) | Collating information, locating and recording remote dendroglyph. Funded Western Yalanji representatives to clear track under supervision of Elder. | Buhrich, A. 2015a. Mt Windsor Dendroglyph. |
| Gimuy Yidinji Aboriginal Corporation | 2015 | | Collating information on dendroglyph. Inspection of carvings held by Queensland Museum. | Buhrich, A. 2015b. Upper Freshwater Creek Dendroglyph. |
| Willie Brim representing Bulwai | 2015 | 2015 WTMA Student grant to AB | Motif and site recording and documenting cultural knowledge, Bare Hill | Buhrich, A. 2015d. Bunda Bibanji rock art records. |
| Frank Royee, representing Malanbarra Yidinji 2015 | 2015 | 2015 WTMA Student grant to AB | Rock art recording, D Stretch enhancement. | Buhrich, A. 2015e. Malanbarra Yidinji art site recording. |
| Yirrganydji Aboriginal Corporation and Dawul Wuru Aboriginal Corporation | 2016 | | Rock art recording, DStretch enhancement. Inspection with Yirrganydji Land Sea Rangers. | Buhrich, A. 2016 Yirrganydji rock art. |

| | | | | |
|------------------------------------|------------|--|---|---|
| Gugu Badhun Aboriginal Corporation | 2014, 2016 | | Training for JCU students in rock art recording, overseen by Gugu Badhun Elder and his niece. | Buhrich, A. M. Leavesley and S. Greer. 2014. JCU Rock Art Field School Mount Claro 2013. Buhrich, A. and C. Reepmeyer. 2016. Rock Art Field School Mount Claro 2015. |
| Mamu | 2017 | Indigenous Land and Sea Management (Qld state government) to Mullen Ban Goon Corporation | Locate two art sites in Wooroonooran National Park. Training for Mamu representatives in 3D laser technology to record ceremonial site, dendroglyphs and rock art site. | Buhrich, A. 2017a. Mamu Cultural Site Recording Wooroonooran National Park, Digital Enhancement and 3D laser scanning of rock art and carved trees. |
| Wabubadda Aboriginal Corporation | 2017 | | Record repainting at Silver Valley. | Buhrich, A. 2017d Updated Silver Valley Rock Art Records. |

8.2 Political dynamics and regional studies: practical considerations and limitations

Cultural heritage research and management is not impartial to local or wider politics. Cultural heritage is a dynamic and politically charged field and heritage professionals are not passive observers (Hampson 2015). Hutson (et al. 2013:381) call this political entanglement, and argues that 'a heritage project must offer something attractive or worthwhile to stakeholders' own projects, be they personal, political, financial or symbolic'. In Australia, the post native title landscape has enhanced major power changes between archaeologists and Aboriginal people as Indigenous communities have gained increasing rights over how their cultural heritage is identified, investigated and reported (Smith and Jackson 2016). Archaeology can, and should, make a difference to people's lives and it was important that this research had ongoing benefit for the Aboriginal parties who are the custodians of their cultural heritage. Community and ethnoarchaeological approaches present some limitations. Studies may not be replicable as the sites visited and information obtained through interviews is guided by community choice, not by researchers. The need to relinquish control is one of the factors that defines community archaeology (Brady and Kearney 2016) but also provides valuable results not otherwise available. This section reflects on some of the practical considerations of working alongside Aboriginal communities as research partners on a regional scale.

Regional studies present specific challenges in terms of collaboration with Aboriginal parties. In Queensland the identification of Aboriginal parties is linked to the registered or determined claims under the (Clth) *Native Title Act 1992*, but native title is far from resolved for many Aboriginal communities. The process for an Aboriginal community to have their native title rights recognized involves two key steps. Firstly, a claim on behalf of an Aboriginal group is registered

with the National Native Title Tribunal and secondly, the claim is assessed or negotiated and native title rights and interests found to either exist or not exist. Once native title rights are found to exist the claim becomes determined, giving the Aboriginal groups certain rights and interests in a defined area of land. Under the *Native Title Act* there can be more than one registered claimant group and governance within the claimant group can change. Indeed, these issues arose during this study, raising some potentially interesting conflicts when conducting a regional study within a specific timeframe.

Physical, administrative and financial resources were significant factors that influenced the capacity of Aboriginal parties to contribute to the research. Relevant individuals, such as senior community representatives had to be available and capable of overseeing site visits, which were difficult in some of the more remote areas. Health issues were also a factor for a number of senior representatives. Administrative resources are necessary for an Aboriginal party to receive and respond to requests for site visits, to facilitate ethics approvals and receive reports. While this level of administration may appear a simple task, Aboriginal parties often have no administrative support and many individuals volunteer their time, on top of work and family commitments, to respond to researchers' requests, in addition to government, funding and other requirements. The need for sound governance mechanisms within Aboriginal parties was essential. Without stability in leadership, or a clear process for gaining community approvals, consultation proved extremely difficult and impossible in some situations.

Indigenous communities have specific expectations of researchers they work with. Smith and Jackson (2016) identify a number of protocols relevant to their long-term collaborations with Burungu. Some of their points are easily transferable to my research project, such as publishing with permission, being flexible in research approaches and respecting existing social and political systems (Smith and Jackson 2016: 177). But working with numerous groups across a single region poses its own complexities. For example, each group has its own (usually unwritten) protocols, and a specific skillset was required to ascertain the appropriate protocols for each group engaged in the research. Avoiding conflicts between Aboriginal parties is highly challenging in the context of a regional study where custodial ownership is still being decided through native title and other processes.

The Mamu Prescribed Body Corporate went into administration one year into the research. Two of the five Mamu clan groups, Dugulbarra and Waribarra responded by managing interests on their own clan estates through a separate corporation. The collapse of the Mamu Prescribed Body Corporate (PBC) meant negotiations moved from Board level to clan level while the PBC was in administration. As a consequence, while approval for my work was required and provided by the

Mamu PBC Board as Aboriginal party under the ACHA, I reported to the senior Dugulbarra and Waribarra clan representatives. In a contrasting example, during my research a joint native title claim was lodged by five clan groups including Yirrganydji and Bulwanydji, each of which I had previously been dealing with individually. This effectively created a single Board and approval process for the two areas and introduced new individuals that I had not previously consulted. These examples illustrate the need to be adaptive to the ongoing political dynamics of each community.

The importance of sound governance structures cannot be overestimated in successful collaborations with Aboriginal groups. In one example during my doctoral research, the Gugu Badhun Aboriginal Corporation, who have a native title determination over the Mount Claro sites, underwent a governance re-structure. The impact of this on my work was that no representatives were willing to provide authorization for the inclusion of the Mouth Claro sites in my research until the governance issues had been resolved. Resolution included the establishment of a Research Working Group with whom I was required to liaise. This group was not functioning before the thesis was completed, and it was around two years from the time the sites were recorded (with verbal approval from Gugu Badhun representatives) to the time I was provided with a written letter of support, as required in my university Ethics approval.

Clearly it is not always possible to take the 'working alongside' approach. Building respect and trust on both sides takes time, flexibility, patience and persistence. True collaborations require a knowledge of the history, issues and aspirations of individual groups, aspects which are not often recognised in commercial or government practice. The level of collaboration with Aboriginal parties that my 'working alongside' methodology required in this regional study is unlikely to be viable for short projects, unless a prior relationship has been established. Reflecting on the various and varied collaborations completed as part of my doctoral research, I note that it was often Aboriginal groups who had not yet had their native title rights determined that were most open and enthusiastic about forming research partnerships. Contacts that I had built over many years with Aboriginal groups were integral to the success of my project, as was the opportunities taken to 'piggyback' on other rock art projects such as the James Cook University Field School. The two groups that had no interest in engaging with my research, Djunbunji Aboriginal Corporation and Jabalbina Aboriginal Corporation, had native title determinations and were confident of looking after their cultural places without an archaeologist. They made it clear that previous experience with archaeological researchers had provided them with no tangible benefits and as a result, they felt sharing cultural knowledge or allowing access to archaeological sites would diminish their control of knowledge surrounding these places. For Djunbunji and Jabalbina, where native title had been determined, the custodians felt they had little need for the

skills archaeologists could offer. In contrast, groups without determinations were more open to developing projects that could contribute to the native title process, particularly where they were self-funding the claim. This entanglement between native title and cultural heritage, which is enshrined in Queensland's legislation, illustrates a significant challenge for cultural heritage professionals and their need to maintain relevance to Aboriginal custodians.

8.3 The Living Cultural Landscape

While I was learning to become an academic scholar, I was also learning from my Aboriginal collaborators about indigenous worldviews. Throughout the fieldwork, Aboriginal custodians talked about 'country' requiring maintenance and being occupied by the 'Old people' and other spirits, in other words as having agency. We have already seen the example of the Bare Hill ritual landscape described by Willie Brim in Chapter 7. Brady and Kearney (2016) described how Aboriginal people on the Edward Pellow Group Islands would describe how the Old people would choose whether to reveal certain rock art sites and motifs to the field work team, while in Cape York, Greer (2009:40) similarly reported how artefacts were revealed to the archaeologists only after 'proper' introductions to country. This is a theme that also arose during my research. On one occasion one member of the field team expressed a certain trepidation about using DStretch enhancement, for the images that may be revealed. It is possible that this concern was expressing the conflict between letting images 'be revealed' by the Old people in contrast to artificially revealing images that the Old people may have been keeping hidden.

Archaeologists are not objective outsiders to cultural heritage but players whose roles can affect and be affected by the cultural landscape. One event that took place during fieldwork to a remote rock art shelter on Russell River, illustrates how I was learning about what it means for country to have agency. A fellow European and myself had stopped for a conversation beside a creek in a dense rainforest vegetation when I felt an extremely sharp pain on the top my head that felt like a rock. It seemed a quondong fruit, around the size and density of an unshelled macadamia nut, had fallen directly onto the top of my head from the rainforest canopy, a distance of about 25m. It was painful and I immediately yelled out. Almost in the same instant, I realized that the custodians who were nearby would interpret this as a message from the Old people who were looking over us, even though we searched for and found the quondong culprit. We did not talk about the event at all on that day, but months later I was discussing the spirits present in the landscape with one of the custodians who was there as I was concerned he may have interpreted it as a sign that I should not have been there. He said that, as I had followed correct protocol on that day by working with the Traditional Owners of the area, it was not my presence, but rather the conversation that was inappropriate. He reminded me that at the time I was talking about

visiting a different significant site in the area, but on a neighbouring estate and this is what the Old people were warning me against.

Custodians related many examples of outsiders becoming sick or injured or even dying as a result of breaking protocol that visitors may not have been aware of. The need for protection for outsiders is a key reason given by Traditional Owners for being present on site visits, as they alone have the ability to navigate the power of the Old people. In Cape York, Greer (2009) describes how the physical environment, historical events and oral history contribute to a place being labelled 'dangerous' by its custodians. In this place, transgressions, such as swearing at the bush, can have serious consequences including disability and mental illness (Greer 2009:40). At the Coronation Hill mine in the Northern Territory, the nature of Jawoyn 'Sickness Country' and the role of custodians in keeping visitors safe, was a significant factor in the decision to prevent mining of the area (McGrath 2016). Conversely, country can also heal. Pannell (2006:14) documents an informant describing a place on Ngadjon country that could heal arthritis, through power channelled through the Old people.

Collaborations with Aboriginal parties provided significant insights into the cultural landscape, but also came with limitations. At times, site visits needed to be postponed while internal governance structures and protocols for the work were decided. Site sampling was not objective, but rather sites were chosen under the guidance of the Aboriginal parties according to local protocols, which were not always openly discussed or transparent. It is possible that I was simply not taken to places that were physically difficult to access, as a way of custodians exercising their duty of care, or inappropriate to include in my research for cultural reasons. To some extent fieldwork methodology had to be adapted to incorporate protocols. For example, several custodians wanted to leave remote sites by 3pm. This was explained as the 'country needing a rest', but may have meant that it was not appropriate to work Elders for lengthy periods of time. Some custodians became clearly nervous around this time, which may be explained by the power of the Old people being considered stronger as the day drew to close and darkness approached. Other protocols included conducting smoking ceremonies and land management activities such as the 'burning' of country (Figure 8.1). Sometimes the Aboriginal party set limitations on what could be included in the thesis. With the approval from Aboriginal parties to include sites in the research came boundaries, such as not including certain motifs that were recognized as holding specific power.

Community-based archaeology sits in the gap between scientific and ethnographic interpretations of the past. Ethnoarchaeological approaches have the potential to balance the requirements of scientific discourse with cultural values by producing research which makes a

social contribution while also enhancing our understanding of the past (Brady and Kearney 2016; Greer 1995; Greer et al 2002; Smith and Jackson 2008). For this research, the community-based approach provided insights into the cultural landscape that would not be available without working closely with the relevant Aboriginal custodians. Although the process had limitations, 'working alongside' Aboriginal custodians significantly enhanced the overall research outcomes by providing insights into the cultural landscape as a living environment, to which the researcher is not a passive observer.



Figure 8.1 Bulwandji representative burning the country under the supervision of his Uncle.

8.4 Cultural versus natural values

Wet Tropics carved trees exemplify the entwined biocultural landscape. As we have seen, dendroglyphs are often found on Aboriginal walking tracks and designs reflect clan designs, body decorations and other symbols of cultural importance. They are also significant components of the natural ecosystem, being some of the surviving trees in the Wet Tropics World Heritage Area. The dendroglyphs provide an example of the tensions between looking after natural versus cultural values, and has implications for cultural landscapes elsewhere, particularly in world heritage areas.

Across the globe, indigenous people struggle with the tension between managing natural and cultural values in protected areas. For example, uKahlamba-Drakensburg National Park, which

forms part of the transnational Maloti –Drakensberg Park World Heritage Area, was recognised by UNESCO for its natural and cultural values, including the San rock art, in 2000. However, after 16 years no cultural heritage manager had been employed, and resources are directed at managing the natural heritage of the region (Hampson 2016:378). Closer to home in the Tasmanian Wilderness World Heritage Area, Aboriginal people have long complained that, although the area was listed partly on the basis of its outstanding cultural values, these have been inadequately managed and Aboriginal people have been excluded from management processes. This has resulted in several reactive monitoring missions by UNESCO Advisory Bodies (Jaeger and Sand 2015). Other protected areas around the world are also often managed to protect natural values at the expense of cultural values. For example, Kruger and Yellowstone National Parks in South Africa and the United States of America respectively, although not world heritage properties, contain both significant cultural values, which are considered secondary to the needs of the natural values by management bodies (Namono and Chippindale 2005). Recently initiatives born of the NatureCulture approach are developing more integrated approaches to the assessment and management of protected areas. See for instance the Connecting Practice project of IUCN and ICOMOS (2015), and *Malama Honua – to care for our island Earth: A Statement of Commitments from the Nature-Culture Journey Participants at the IUCN World Conservation Congress, Hawai'i 2016*.

However, these integrated approaches are not yet embedded in protected area management and 'locking the gate' is a key management tool used in protecting the natural values of the Wet Tropics WHA. Environmental research has found that clearings associated with power lines, highways and roads place increased pressures through 'edge effects' on the rainforest environment (Laurance and Goosem 2008). The WTWHA is considered highly vulnerable to such effects— even small forestry roads can have significant impacts by facilitating movement of exotic weeds and feral animals, changing the microclimate and vegetation structure, and increasing erosion (Laurance and Goosem 2008; Stork et al. 2008). Closure and revegetation of lineal clearings is considered the most effective way to reduce such risks (Laurance and Goosem 2008). A strong association between roads and forestry tracks and the spread of *Phytophthora cinnamomi*, a root fungus known to cause forest dieback, has been noted in the Koombuloomba area (Stork et al. 2008). But the old forestry tracks and roads also provide access to dendroglyphs. In many cases, the forestry tracks follow the route of Aboriginal walking tracks, which themselves are an important element of the cultural landscape. As a management tool, 'locking the gate' may be successful in restricting humanly caused impacts on the flora and fauna of the Wet Tropics WHA but it also curtails the ability of Aboriginal people to visit and care for rainforest dendroglyphs as part of a living cultural landscape.

The Burra Charter, Australia's primary guideline for the management and conservation of cultural heritage, places great importance on the associations between a significant heritage place and the people who value it. The Burra Charter encourages associations between people and place to be retained, and recommends opportunities for continuation or revival of significant associations (Australia ICOMOS 2013 Articles 24.1 and 24.2). Rainforest Aboriginal people have raised concerns about 'increasing access restrictions to land, and therefore culture' since the Wet Tropics WHA was first proposed (Review Steering Committee 1998:13). While recognising that the diverse rainforest Aboriginal communities may have different approaches to managing Country, rainforest Aboriginal people have consistently voiced aspirations to protect cultural places through on ground management and clan-based cultural mapping (McIntyre-Tamwoy et al. 2010; Review Steering Committee 1998; Wet Tropics Aboriginal Cultural and Natural Plan Project Team 2005). For cultural sites such as the dendroglyphs in the Jirrbal estate, monitoring is virtually impossible due to their inaccessibility.

Unlike dendroglyphs in Canada and the Chatham Islands, surviving Australian rainforest dendroglyphs are not threatened by land clearing and wind exposure. However, in the WTWHA, the international recognition of the region's natural values comes at the expense of the nationally recognised Aboriginal cultural values. Restricting visitor access to areas for the preservation of significant rainforest flora and fauna has resulted in some areas containing dendroglyphs (as well as other culturally significant places) becoming extremely difficult for both Aboriginal people and conservation experts to visit. This highlights the tension that exists between natural and cultural site management in the Wet Tropics WHA. The challenge for land managers is to balance these competing interests. Aboriginal access to significant cultural sites should be encouraged and facilitated, while still maintaining the highest protection for the natural ecosystems.

8.5 Survival of the dendroglyphs

One of the indirect outcomes of the methodology was that it provided a thorough examination of the management issues affecting the sites and this enabled communities to access specialist advice to assist them in assessing future management priorities. Most urgent is the need to locate and record rainforest dendroglyphs and to understand their significance to Aboriginal custodians. Prior to this research, several of the carved trees had not been visited since 1989, and some had not been seen since the 1960s. My research identifies dendroglyphs are carved into some of the oldest living trees in the Wet Tropics, some of which are suffering from the effects of their grand old age. But without detailed records of their locations and health, they remain an enigmatic cultural resource.

The Wet Tropics contains the only known body of tropical dendroglyphs. There is little information available in the existing literature to help understand how long they might live. We know that carved trees can survive extremely long time periods in the right conditions. In boreal Sweden, some carved trees have been dated to the 1500s (Ericsson and Andersson 2003), although observations from New South Wales demonstrate the loss of one carving in only twenty years (Spennemann 2015). In Sweden, only 10% are estimated to survive (Ericsson and Andersson 2003), with predicted loss of 38 trees per year (Andersson et al. 2005) and in Chatham Islands, only 30% of the 600 trees recorded in 1950s remain, threatened mainly by pastoralism, tree clearing and wind exposure (Barber et al. 2014). New South Wales dendroglyphs were of special interest to anthropologists in early 1900s who photographed, described and removed carved trees from ceremonial sites in NSW (Black 1941; Etheridge 1918; Mathews 1896; Purcell et al. 2011; Taçon et al. 2003). In British Columbia, dendroglyphs are still being found during logging activities (Klahoose First Nation 2013). The major threats to dendroglyphs elsewhere come from the removal of the surrounding forest, which destroys the local ecosystem and creates additional pressures on the trees.

Before this research, the major threats to the Wet Tropics dendroglyphs was thought to be from extreme weather events, especially since climate change projections forecast greater numbers of more intensive cyclones in the north Queensland. However, my research found that the trees are fairly resilient to these extreme weather events. Trees thought to have been destroyed by a cyclone in 1989 were found to have survived not only the 1989 event but also two subsequent cyclones (Buhrich et al. 2015). Observations indicate the age of the trees themselves are the primary conservation factor (Table 8.2). Insect attack and fungal growth were significant, with the most extreme example being the Mt Windsor dendroglyph which had evidence of rot from fungal attack extending four metres up the trunk. Its remoteness, like many of the dendroglyphs, makes it extremely difficult to record using modern technology such as the 3D laser scanner which was successful on the Charappa cluster.

Mount Windsor is the top priority, because of the extensive rot. It is recommended that a sample of the fungus is taken to help understand the processes that are affecting the tree and to determine the best management strategy. A regular monitoring system should be in place to observe how fast the rot is advancing. Inspections should take place at least every two years and after each major wet season event or cyclone. Western Yalanji people have expressed a keen desire to visit and inspect the tree, and this should be a priority. There also needs to be some consideration as to how the carving is managed should the tree be destroyed, for example in a cyclone. The Western Yalanji community should decide on a strategy, such as removing the

carving if the tree were to fall, before the tree actually does fall. This also requires having a plan for where the carving would be removed to, and how this would be funded.

Defoliating bark was also observed in the Koombooloomba dendroglyph. The rot had extended significantly since 1989 (Grimwade 1990) and it should be monitored to determine its growth rate. From discussions with various Jirrbal representatives, it appears that the Jirrbal community does not agree on how the carved trees should be managed. While the Wabubadda Board supported my research, other community members felt that further research is not needed, and these trees should not be visited. Clearly the first step in the management of the dendroglyphs on the Jirrbal estate is to determine how the community wants to manage the trees. One issue that was raised is that many people know the location of the Koombooloomba carving and there is at least some level of unmanaged visitation. Moving the nearby carpark and removing all references to the tree from the internet and QPWS planning material may control some visitation. As discussed above, at this stage, the O'Leary Road dendroglyph cannot be visited without track maintenance, which the WTMA controls through permitting.

Table 8.2 Management issues of Wet Tropics dendroglyphs.

| Dendroglyph site | Management issue | Recommendation |
|------------------|------------------------------------|---|
| Mount Windsor | Extensive fungal rot | Monitoring to determine how fast rot is spreading |
| | | Identify the fungus causing the rot to determine management strategies |
| | | Site visit by Western Yalanji representatives |
| Freshwater Creek | In storage, off country | |
| Koombooloomba | Rot in trunk, unmanaged visitation | Determine how Jirrbal community want to manage the trees |
| | | Monitor rot in trunk to determine rate of growth |
| | | Remove references to this tree from internet resources and QPWS planning material, move the nearby carpark area |
| O'Leary Road | Cannot access | Determine the rights of Jirrbal people to maintain access to sites within their native title determined area |
| Charappa | Insect damage on one tree | Monitor tree health using laser scans taken in 2017 |
| South Johnstone | | Detailed recording (e.g. laser scanning) |

The seven Charappa trees are in relatively good health with only one tree suffering from insect damage. At the time of writing, we are awaiting the results of the laser scans taken in 2017 (Buhrich 2017a, b). It is expected that these, together with earlier documentation (Buhrich 2013a; Grimwade 1990), will prove a useful tool for monitoring changes through time. If successful, the laser scanning project should be rolled out to include all the known dendroglyphs in the Wet Tropics.

It is apparent that more information exists on rainforest dendroglyphs than is in the public record. During the research, ex-Department of Forestry employees have contacted me with information on unrecorded dendroglyphs that are yet to be visited. Other individuals, particularly recreational bushwalkers who explore remote areas of the Wet Tropics in search of rare plants and endemic fauna, have provided excellent information on locating and identifying rainforest dendroglyphs. Information from Forestry and other individuals is a relatively untapped resource that will provide valuable information on the location and preservation of rainforest dendroglyphs. Many trees remain to be located, documented and interpreted by relevant custodians before they are lost.

Currently, there are few resources available for cultural management projects. None of the relevant Aboriginal parties have ranger programs, which would be a potential management resource. The extreme remoteness of the dendroglyphs mean that significant resources are needed just to access the sites. To access the Mount Windsor dendroglyph, for example, requires an overnight camping trip. It is difficult to carry bulky or heavy recording equipment (also expensive to acquire) in addition to the food, camping equipment, wet weather gear and safety devices required in the high-altitude forest.

8.6 Visitor management at rock art sites

Managing visitors is a key consideration for looking after heritage sites. Many of the rock art sites in north Queensland and elsewhere have been protected purely by their remoteness and lack of visitors (Cole and Buhrich 2012). This research identified visitors as one of the key issues affecting site protection, but only at a small number of sites (Table 8.3). Agnew (et al. 2015) identify four pillars of rock art conservation and practice to ensure rock art is protected and safeguarded: public and awareness, effective management systems, physical and cultural conservation practice and community involvement and benefits. Sadly, there is no evidence that any of these principals are enacted at the sites recorded for this research. Furthermore, all of the sites affected by visitors are within national parks or conservation areas, and are the management responsibility of the state. Nearly two decades ago, the Queensland Environment Protection

Agency (1999) acknowledged that ‘we know nothing about the visitors to Qld rock art sites’, and this remains unchanged.

Management of rock art sites at Davies Creek presents specific management issues. The sites are within Dinden Creek National Park, which contains visitor infrastructure including roads, campgrounds, walking tracks, bicycle tracks and toilet facilities. Although the art sites are not promoted, people clearly visit them, and small tracks can be seen into some of the shelters. None of the rock art sites within Davies Creek are part of any formal management planning and there are no records of visitor numbers or baseline records for any of the art sites. Graffiti removal programs in the 1990s appear to have been successful in reducing graffiti at rock art sites in Davies Creek and Bare Hill. However, this study did identify two instances of ‘copy-cat’ art and one engraving at an art site.

Table 8.3 Management issues at Wet Tropics rock art complexes.

| Site | Management infrastructure | Tenure | Visitor issues |
|----------------|--|--------------------|------------------------------------|
| Melody Rocks | None | Lease | None, rarely visited |
| Cairns coastal | None | USL / Road Reserve | None, rarely visited |
| Bare Hill | Carpark, tracks, boardwalks removed, interpretive material | Protected Area | Graffiti |
| Davies Creek | None | Protected Area | Graffiti, copy-cat art |
| Mulgrave | None | USL | None, rarely visited |
| Wooroonooran | None | Protected Area | None, rarely visited |
| Silver Valley | None | USL | Visitor population unknown |
| Mount Claro | Fences | Lease | Safety, visitor population unknown |
| Dendroglyphs | None | Protected Area | Unmanaged visitors to one site |

It is not clear why people are recreating motifs in Aboriginal sites. While it is possible that Aboriginal custodians are making the art, the people involved in my field work deny making these motifs (A. Brim pers comm.), although they do discuss future repainting or creation of new art sites as a form cultural revival. Certainly, they are not making exact copies, as the techniques are different. The ‘copy-cat’ hand prints and engraving are not found in pre-contact Davies Creek rock art. Davies Creek is close to the ‘New Age’ village of Kuranda, and it is possible that the local New Agers consider them spiritually significant. Appropriation of Indigenous sites and symbols causes management difficulties across the globe, notably at Sedona in the Southwest United States of America where replica medicine wheels and other stone arrangements are found inside rock art

sites, and Stonehenge which has become a focus for neo-pagans and resurrected Druid cult (Coates 2009, 2011; Dean 1997; Ivakhiv 2001).

The visitor management issues identified at Davies Creek provide evidence that better management and protection is needed. It is alarming that the neighbouring rock art cluster, Bare Hill, also within a Protected Area, and which has been closed to unmanaged visitation for over two decades, has recently been opened to the public with no baseline data of visitors, no detailed site recording and little consultation with Aboriginal custodians. The management of Bare Hill has, to some extent, been shaped by the changing legislation in Queensland and below I examine how changes in Queensland legal framework has influenced the management of 'scientific' and 'social' values at the site complex. This case study provides a critical examination of the role of legislation and policy in protecting Aboriginal rock art and provides a cautionary tale for legislators and heritage practitioners.

8.7 Queensland heritage legislation: from scientific to social values

In Australia, Aboriginal heritage sites are protected through state legislation. There has been three pieces of legislation in Queensland since 1967 aimed at protecting Aboriginal and Torres Strait Islander heritage places. In 2003, the *Aboriginal Cultural Heritage Act* brought about a major shift in how values are identified at Aboriginal sites that has had a profound effect on management strategies at one site cluster. As described in Chapter 5, Bare Hill is a story place and a significant component of the Bulwandji cultural landscape that includes occupation sites, walking tracks and initiation sites (Bottoms 1999:11). Paintings at these sites, and the sites themselves, embody totemic beings, ritual activity and depict events from 'before time'. Like many parts of Australia, Bulwandji and their neighbours retained significant oral history, knowledge and connection to country despite the dispersals, dispossession and forced removals. Of all the sites recorded for this research, Bare Hill provides probably the best example of rock art sites as a powerful component of the symbolic, social and ritual fabric of the cultural landscape.

Tracing the history of heritage research and management at this site complex provides insights into the influence of legislation on the potential conflict between protecting scientific and cultural values. This investigation begins before specific heritage legislation existed in Queensland. From 1959, Aboriginal artefacts had limited protection through the *Queensland Forestry Act* (Rowland et al. 2014). At that time, forced removals under the Aboriginal Protection Act, and the invisibility of Aboriginal people outside missions and reserves, led to perceptions that sites such as Bare Hill had no living custodians. The effect of missionaries on Aboriginal people in the rainforest area had been noted by Swedish collector Eric Mjöberg (2015:266) in 1912. Mjöberg wrote that only

the oldest Aboriginal people continued to live in bush camps with traditional objects they attempted to protect from collectors such as himself.

The 1950s have been described as ‘the Indian summer of the artefact collectors and typologists’ who travelled across state boundaries ‘untrammelled either by ethical considerations or by regulations’ (Mulvaney 1981:18). Presumably nor were they challenged by Aboriginal people who were absent and powerless to stop the cultural theft. During his ‘Indian summer’, Seaton collected artefacts, recorded sites and transcribed stories from *Djabugay*, *Yirrgandji* and *Gunggandji* informants, which he reported in the *North Queensland Naturalist* (Seaton 1952a, 1952b, 1953). He collected oral history from Bulwandji informants and completed the first systematic recording of the Bare Hill art motifs (1951). Traces of Seaton’s recordings, in the form of white chalk outlining many of the paintings at Bare Hill, are still visible after 60 years (Walsh 1986).

In 1967, dedicated legislation for protection Aboriginal heritage was enacted, replaced by the *Cultural Record (Landscapes Queensland and the Queensland Estate) Act* of 1987. Compared to other Aboriginal sites in north Queensland, Bare Hill received a large amount of resources and attention from government bodies responsible for managing Aboriginal heritage. In the 1990s, management, led by the Department of Environment and Heritage, followed the processes that had been developed elsewhere in Australia for protecting Aboriginal sites (e.g. Gale and Jacobs 1987; Australia ICOMOS 2013). Management activities included two conservation assessments funded by AIATSIS via grants to the Department of Conservation (Brown 1993; Gunn and Thorn 1994) and a graffiti removal program, which removed much of the white chalk outlines left by Seaton and other graffiti left by unmanaged visitors. However, a formal management plan was never completed, and much of the planning was ‘done on the run’, with government learning about Aboriginal protocols and land management issues and Aboriginal custodians learning about site management (Horsfall 1994).

The Bare Hill Conservation Park was gazetted in recognition of its high cultural values. Around 1150 ha was set aside specifically to protect the cultural values of the art sites and surrounding landscape. This meant access to the area could now be controlled through a locked gate, regulated in agreement between the State government (who managed the Conservation Park as a part of the nearby Dinden National Park) and Aboriginal custodians. Visitor infrastructure was installed, including boardwalks at two art sites, a carpark, interpretive information and a walking track. These activities followed Burra Charter principles and were at the forefront of rock art protection in Australia. Planning, funding applications and the work program were managed by the

(Queensland) Department of Environment and Heritage, with consent and some involvement of local Aboriginal groups (Horsfall and Hunter 1996).

Although the sites were now ready for visitors, access was restricted by the locked gate and permitting system managed by the Department of Environment and Conservation. The intention was that local Aboriginal organisations would establish guided tours from nearby Kuranda, to provide a rock art experience for tourists on a day trip from Cairns (Horsfall and Hunter 1996). The state had provided infrastructure to protect the scientific values from visitor and animal impacts at two of the sites, based on research on visitor behaviour at rock art sites. Aboriginal guided tours would have complemented the education outreach aims of the former Cultural Record Act and provided visitors with an authentic Aboriginal experience. However, after 20 years a formal tourism product at Bare Hill is yet to be developed.

We know from studies commissioned in 1993 that Bare Hill received some visitation, by foot traffic and motor vehicles (Brown 1993). Concerns were raised about the potential for unmanaged visitors to damage the sites, particularly the archaeological deposits. Preparation of a conservation management plan was recommended, to include photographic and environmental monitoring and pigment analyses by a rock art conservator (Brown 1993). No resources were available for the recommended work and to date, none of these recommendations have been implemented.

In 2003, revised Queensland heritage legislation was enacted. One of the significant changes was that Aboriginal people were recognised as the primary custodians for Aboriginal sites and were solely responsible for assessing significance. Two important developments have taken place at Bare Hill since implementation of the ACHA. Both developments mark a major shift in the interpretation of what makes the site significant and how it should be protected. Neither have had any input from cultural heritage professionals, although both have the full support of senior Aboriginal custodian, Willie Brim.

The first is a rock cleaning technique being used to clean mould and fungus from the rock surface at one of the main galleries. This involved hardening the rock substrate before using laser technology to 'clean' the wall surface and remove the black surface accretion at the request of Aboriginal custodians (The Cairns Post 16 July 2013). The process has been used to restore built heritage in Europe and elsewhere, although it is reportedly the first time it has been used on a rock art site (W. Brim pers. comm. 2014). Where the fungal growth was cleaned traces of red paintings can now be faintly discerned. Further work in the area using this technique is planned when funding becomes available. Using a new and invasive technique for hardening and cleaning the art surface without involvement of rock art specialists is an example of how management has

changed dramatically at this site since the introduction of the ACHA. It is unlikely an untested technique for cleaning rock surfaces in an art site such as Bare Hill would have been permitted under previous heritage acts, particularly in the absence of written methodology or formal monitoring systems. However, under the ACHA, there is no requirement to apply the precautionary principles that were previously invoked.

The second major activity is the opening of two of the Bare Hill rock art sites to visitors. Opening sites in national parks to visitors was part of the Newman government policy to 'unlock' state land for public recreation. The permitting system for access to the Bare Hill Conservation Park, or any state forest in Queensland, no longer exists. The locked gate has been removed and boardwalks have been removed and replaced with natural rock paving. The sites are being opened for unmanaged visitation for the first time in 30 years, without any baseline monitoring or consideration of the other visitor management recommendations made in 1993.

This case study raises some significant questions for the management of rock art in Queensland. A key question is why rock art or cultural heritage specialists were not involved in these significant changes to the management of Bare Hill. Willie Brim claims the lack of respect shown to local Aboriginal people during the 'protectionist era' has led to a mistrust of archaeologists. In the absence of any other resources to look after country and protect their cultural heritage, Bulwandji are re-asserting control over the management of the sites, after having little control for many years.

A second question is whether the heritage legislation is providing adequate protection for significant sites in Queensland. This is a complex issue. As this case study demonstrates, heritage places have different values for different stakeholders. From a scientific perspective, the Bare Hill sites have high potential to reveal significant archaeological information about past occupation of the area in the wet/dry zone of the Wet Tropics. There is potential for rock art dating, paint analysis to determine trade and exchange networks and archaeological excavations. This cluster contains the only recorded 'negative' rock art, and so provides opportunities to examine the microclimate and pigments. From a scientific perspective, these values are delicate, and potentially threatened by irresponsible behaviour of one or two tourists. However, from a cultural perspective, the values of Bare Hill are embodied in the place itself, and the relationship of the site and its context to the history, traditions and social fabric of Bulwandji. For Bulwandji the cultural values are resilient to the effects of visitors.

Competing interests in managing scientific versus cultural significance at the Bare Hill complex are at the heart of the apparent conflicting views in managing the Bare Hill complex. In the past, cultural heritage professionals have focussed on protecting the rock art and tangible

archaeological remains, concentrating on the *scientific* values. But for Bulwandji the significance of Bare Hill is as the resting place of *Kunandooran*. The social/cultural values of the site are embodied in the living connection between people, story and place. The *cultural* values are not affected by removing fungal growth from the rock surface, or allowing people to visit the site unguided. Aboriginal custodians argue that the focus of protection on the scientific values, by installing boardwalks for example, detracted from the significance of the site as a living story place to the local Aboriginal people. As the living embodiment of *Kunandooran*, the social/cultural values are highly resilient to experimental techniques to remove fungal growth or the effects of unguided visitation.

The current Queensland heritage legislation places a higher priority on social values, sometimes at the expense of scientific values. It is imperative for archaeologists to demonstrate to Aboriginal custodians the importance of scientific values and the role our discipline and other specialist skills might play in protecting all values. However, as the conversations with Djumbunji Aboriginal Corporation and Jabalbina Aboriginal Corporation revealed, in some communities there is a distrust of archaeologists as a result of a previous focus on scientific values at the expense of social values.

Issues and outcomes of ‘working alongside’

The working alongside model yielded a range of community outcomes in addition to providing the data for my thesis. It also provided an opportunity for two way, or reciprocal research. As I was producing valuable management information for the relevant communities, I was also learning about different ways the landscape could be experienced.

Together with communities, 12 individual projects were developed. It is satisfying to know that the work produced has direct relevance to the community you are working with: however, while the ‘working alongside’ methodology yield many positive outcomes, there are practical limitations to the approach. These primarily centre around the length of time required to negotiate the individual projects that together feed into the overall thesis but also serve local community needs.

I found the process of recording and analysing cultural heritage on a regional scale to be a politically charged activity in the post native title landscape. While this approach certainly provided important insights not available through purely quantitative studies, it also posed some limitations in terms of access to sites and control of information. An understanding of the local political context is necessary to fully understand the limitations of the thesis results. Some groups chose not to engage with the research because of past experiences with archaeologists, while others saw it as an opportunity to advance their own aims. For example, the work with the Mamu

people started not long after native title had been determined over the Mamu estate and the group were seeking opportunities to work on country. My research provided a (modest) source of funding to fund Mamu Traditional Owners to locate and record rock art sites. While my aim was to revisit and record the motifs, for Mamu it was an opportunity to meet their strategic aims of engaging younger generations in projects on-country and to assert their ownership of country with land management agencies such as Queensland Parks and Wildlife Service and the Wet Tropics Management Authority.

9 Conclusion

At my first university seminar, in 2013, I proposed that rock art style in the Wet Tropics would reflect the complex Aboriginal linguistic landscape mapped by Dixon (1983, 1996, 2015) and others (Bottoms 1992; Tindale 1952). Dugulbarra Elder, Steve Purcell, sat quietly through my talk and the subsequent academic questions, then asked: ‘what if you don’t find what you are looking for?’ The question puzzled me – after all previous rock art research had demonstrated major style provinces reflected ‘open’ social networks in areas with poor resources such as the Western Desert (McDonald and Veth 2013), and ‘closed’ social networks in rich resource areas such as Arnhem Land (Taçon 1993). The same pattern had already been identified in north Queensland where stylistic precincts of figurative art were recorded in resource rich areas like Laura, Koolburra and Princess Charlotte Bay which could support large numbers of people in relatively small cultural estates. Further south, in the open and arid areas south of the Mitchell-Walsh watershed more widely dispersed populations shared a non-figurative art style across a large province that included Chillagoe and Georgetown (Cole and David 1992; David and Lourandos 1998). Why would this not work in the Wet Tropics?

The Wet Tropics appeared to be a perfect place to demonstrate Information Exchange in visual culture. It was home to relatively small geographical language groups with well-defined boundaries that have remained stable since at least the 1930s (Tindale 1952; Dixon 1976, 2015). Late Holocene adaptations, such as the use of fire to encourage seed bearing trees and the processing of toxic seeds, provided high carbohydrate resources returns that enabled a complex network of small ‘closed’ language groups (Cosgrove 2008; Dixon 1976, 1983, 2016; Hill and Baird 2003; Tuechler et al. 2014). Furthermore, research on material culture by Abernethy (1984) and Hale (1989) found strong links between clan/language identity and the highly stylised rainforest shields, demonstrating visual expression was used to convey social identity among language groups of the Wet Tropics. The Wet Tropics appeared to be a perfect place to explore the links between language and visual expression in rock art and dendroglyphs.

Over the next four years I pursued my hypothesis that rock art style would reflect the diverse linguistic identities in the Wet Tropics, but in the end the evidence did not provide the results I was expecting. I began to understand Steve Purcell’s question.

9.1 Rock art, dendroglyph, and language in the Wet Tropics

This study set out to explore the relationship of style in rock art and dendroglyphs to social identity in the Wet Tropics region of north Queensland. In Chapters 2 and 3, I presented the Wet Tropics as a distinctive region, which was occupied during the Late Holocene, a dynamic period in Aboriginal Australia. The methodology described in Chapter 4 required working in collaboration with nine Aboriginal parties to record rock art sites and dendroglyphs across the Wet Tropics and its western boundary with the intention of identifying patterns between style and Aboriginal language groups. It applied formal, informed and phenomenological approaches along with ethnography to attempt to understand the relationships and roles of rock art and dendroglyphs in the Wet Tropics.

The results of my investigation show little correlation between language, rock art and dendroglyphs. In fact, it appears that major stylistic differences in rock art could be found within single language estates. For example, Dyirbal speakers include the Mamu and Jirrbal groups who were collaborators in this research. Rock art was recorded on the Dyirbal estate in both the east and west sides of the study area. The research found significant differences in rock art style within the Dyirbal speaking estate, with a higher rate of figurative paintings on the eastern side and a higher rate of non-figurative on the western side. Dendroglyph motifs are dominated by non-figurative designs, even though they only found in the eastern side of the Dyirbal estate. This pattern, of figurative rock art motifs on the eastern side and non-figurative rock art motifs in the west, is repeated throughout the Wet Tropics.

The evidence suggests that, while Information Exchange is demonstrated in the visual culture of rainforest Aboriginal people, patterns in visual culture are not aligned with language. Certainly, patterns were identified, specifically in the distribution of motifs, the techniques employed to make rock art and dendroglyphs and the ratio of figurative to non-figurative designs in the east and western Wet Tropics, it is just not clear what these patterns represent. Aboriginal people had multi-faceted identities including language groups, moieties, sections and marriage alliances which cannot be understood without an in-depth knowledge of the cultural systems in which a person existed. It is possible that patterns in visual expression were not reflecting difference, such as language, but rather signified connections that could extend over considerable distances. The shield designs in rock art in Townsville, which appear to represent rainforest shields for the Wet Tropics, could be an example of southern neighbours highlighting the connections between people in the Wet and Dry Tropics (Buhrich et al. 2016; Goldfinch 2016). The older stencil art at Mount Claro could represent long standing relationships between Gugu Badhun and their western Ewamian neighbours, and perhaps the change to non-figurative motifs reflects shifting allegiances over time.

Future research on rock art should be directed to examining individual motifs across space. The Mount Windsor dendroglyph, male anthropomorphs from Bare Hill and the 'Kennedy character' of the Herbert Valley, all of which are similar to the 'Quinkan' figure from the Laura rock art suggests strings of connectivity that cut through numerous language groups and other regional boundaries. A future line of enquiry could investigate the relationship of these motifs to the oral histories and exchange networks that operated in the past (Greer et al. 2015). In Laura, Quinkans are known to represent malevolent spirits associated with thunderstorms, who travelled across vast distances, often depicted at places important to the Quinkan story (George et al. 1995: 23-24). Analysis of stories relating to similar themes could be potentially illuminate the meaning and placement of some of the Wet Tropics motifs. The cassowary is another intriguing motif, particularly as it is found outside the Wet Tropics in Princess Charlotte Bay. Future work could investigate stylistic similarities at coastal locations further north, at Iron Range, Cape York or Papua New Guinea, all rainforest area where cassowaries still exist and rock art style is relatively unrecorded.

On a regional scale, I predict further research will refine the concepts of provinces and precincts across north Queensland. I suspect, as the body of knowledge on rock art in central and northern Cape York Peninsula is better understood, a broad 'Northeast Coast tradition' will replace the existing provinces of Cooktown, Wet Tropics and the Torres Strait. This 'Northeast Coast tradition' may follow story lines or ceremonial networks. This assertion supports the work of Cole (2016) in the Laura region where a fine-grained analysis of motif style in the Laura sandstones between PCB and Mitchell-Palmer demonstrates a difference between motifs of eastern and western sites, and questions the existence of stylistic boundaries that correspond to simple linguistic, social, environmental or geographical systems. Similarly, Alpher's (2016) map of Alaya-Athima languages in southeast Cape York Peninsula and the Gulf savannah incorporates parts of three major rock art stylistic provinces, including the figurative 'Quinkan' style, the Gulf savannah stencil art and non-figurative art of the Mitchell-Palmer district. Overlaying the stylistic rock art provinces with Alpher's language map illustrates that very different rock art styles could be used across related languages.

My research demonstrates that it would be inaccurate to assume one model for rock art style and social identity across the continent. It remains to be resolved why rock art aligns with language in some areas, and not others. Without detailed knowledge of the traditions and meaning behind the context of motif production it is simply not possible to assume a correlation between style and social boundaries.

9.2 The political dimension of cultural heritage research and management

Archaeology is not immune to social and political forces and conflicts were identified throughout the course of this research. The conflict between managing natural and cultural resources in protected areas was a significant theme for Aboriginal people asserting rights to manage their cultural places in the Wet Tropics World Heritage Area. This theme is common globally. Hampson (2015b) uses the example of uKhahlamba-Drakensburg National Park to discuss the role of rock art in identity formation in post-apartheid South Africa. Like the Wet Tropics World Heritage Area, the Indigenous people of uKhahlamba-Drakensburg National Park were removed as a result of conflicts with colonists in the 19th Century. Despite being recognised for its cultural and natural values on the World Heritage List, promotion and management of values in uKhahlamba-Drakensburg National Park continues to focus on the natural heritage at the expense of cultural values. Visitor centres, interpretive material and most importantly Indigenous run guide services that focus on promoting the significance of the rock art have a role in challenging misconceptions of the San as ‘nature’s children’.

The need to balance natural and cultural heritage preservation in protected areas raise issues about ownership and control. In the Wet Tropics, while ‘closing the gate’ may prevent the spread of weeds and feral animals, but it also inhibits the ability for Aboriginal custodians to visit and manage the sites. Many of the dendroglyphs were located by the Department of Forestry and are close to old logging tracks that were closed in 1989. For Aboriginal people to access these sites roads must be opened, by cutting fallen branches and fixing potholes. This is actively discouraged by Wet Tropics Management Authority, who manage a permit system for any vegetation changes and track maintenance. It remains to be seen how this conflict can be managed, particularly where Aboriginal people have been awarded native title rights in an area, such as Wooroonooran National Park, or Koombooloomba. It may be that custodians also want to ‘close the gate’ but surely this should be agreed through negotiation rather than assumed.

Here we might expect to turn to the legislation for guidance on navigating the conflict between management of scientific and social values. The Burra Charter maintains that ‘the aim of conservation is to retain the cultural significance of a place’ (Australia ICOMOS 2013:3) and the (Queensland) *Aboriginal Cultural Heritage Act 2003* identifies Aboriginal people as having responsibility for determining significance of Queensland’s Aboriginal sites. If Aboriginal custodians place a higher value on the (living) lore, over the (static) archaeological values, then one must ponder the implications for the preservation of scientific values of Queensland’s cultural heritage. Marshall and Taçon (2014: 214) see a bright future in protection and preservation of rock art sites through the leadership shown by Aboriginal communities, who can develop management systems on their own terms. The role of heritage professionals, both ethically and

legally in Queensland, is to work in mutually beneficial collaborations with Aboriginal custodians. While some sites in Queensland are managed through successful collaborations between Aboriginal people and archaeologists (e.g. Brady and Kearney 2016; Pragnell et al. 2010; Ross 2010), the challenge for future Aboriginal heritage protection policies lies in the delicate balance between protection of scientific and social values.

The repainting of Silver Valley rock art has some echoes of the Ngayrin Cultural Continuity Project at Gibb River in the Kimberley's in the 1980s. But while the debate in Western Australia was primarily focused on the right of Aboriginal people to repaint sites, at Silver Valley the repainting raises issues about custodial rights of contested areas. Although issues of custodial rights were also raised in Western Australia (Walsh 1992; Ward 1992), the Ngayrin debate was overshadowed by questions about the rights of Aboriginal people to repaint their sites and more specifically about the aesthetics, whether the repainting was a continuity of traditional practices and the potential conflict with heritage legislation (Horton 1987; O'Connor et al. 2008; Mowaljarlai 1992; Mowaljarlai and Peck 1987; Ward 1992). In contrast, at Silver Valley there is no role for non-Indigenous people to question the repainting of Aboriginal sites under the current Queensland legislation. At the heart of the Silver Valley repainting is the dispute of ownership between two Aboriginal groups. If native title is eventually found in favour of the current registered claimants, who did not repaint the site, the repainting may have impinged on their native rights and be considered a future act under the *Native Title Act* of 1992, meaning compensation could be sought. This example illustrates the significance of rock art sites in the current political climate.

9.3 Challenges and future directions

The survival of the dendroglyphs is the most pressing management issue, and also the most difficult due to remoteness and lack of information on the dendroglyph sites. Dendroglyphs are a rare and endangered resource that are poorly documented across the Wet Tropics. Access to these trees, which are often single carvings in remote and barely accessible locations, is extremely difficult and it will require significant resources just to relocate them. Indigenous dendroglyphs are rare worldwide, and these are the only recorded Indigenous carvings in a Protected Area, which means they are not exposed to the threats of logging and exposure seen elsewhere (Andersson et al. 2005; Blackstock 2001; Coy 2009; Erikson et al. 2003; Purcell et al. 2011). Furthermore, the dendroglyphs contain important stories, clan symbols and are significant cultural sites for Aboriginal people today and the carvings are part of a living, dynamic cultural landscape. There is much work to be done in locating dendroglyph sites, establishing protocols around research and protection and determining the best ways to record and preserve these significant cultural assets.

There are gaps to be filled to determine motif style in the Wet Tropics. Whole language areas, such as Gunggandji and Nywaigi and Yalanji, were not included in this research, as appropriate protocols could not be established with the relevant Aboriginal parties in the time frame available. The inclusion of a broader range of rock art records will provide further information. It is possible that the small dataset used in this research, particularly of the dendroglyph motifs, has meant that the conclusions drawn regarding style in the Wet Tropics may change over time. However, it is encouraging that recently located rock art seems to fit the model presented here (Buhrich 2017c, d).

Further research might explore whether there are similar patterns in the distribution of the unusual stone tools and other items of material culture, such as baskets and bark blankets from the Wet Tropics and whether these reflect different social and cultural identities. Specific questions could examine why groups across the Wet Tropics used different processing techniques although the same rainforest seeds were eaten across the Wet Tropics. Why were the enigmatic *ooyurkas* not traded more widely throughout the Wet Tropics? If the incised grindstones served a useful purpose, why were they not used outside the Dyirbal speaking estate? The answers to these questions may provide further insights into social interaction within the Wet Tropics region.

One of the challenges for cultural heritage research in the post-native title landscape is understanding the contemporary significance and cultural context to custodians (Brady 2016; Taçon and Brady 2016:4). This thesis demonstrates the value of investigating visual expression from both Indigenous and non-Indigenous perspectives, in not just one but two forms of visual expression. In this research, I approached the understanding of rock art and dendroglyphs in the Wet Tropics, not just as sites but as part of the cultural landscape. This was a direct influence of working alongside Aboriginal custodians (Morphy 1993: 206). Significantly, this research has produced a methodology for how cultural landscapes can be interpreted, understood and communicated through working alongside Aboriginal custodians as collaborators. This is no simple task, it requires relinquishing some control, accepting that not all custodians will choose to be involved and being open to unexpected pathways. Above all, it requires a level of flexibility to research approaches, which is not always possible outside academic spheres. Working closely with Aboriginal parties provided an understanding of the rich and deep connection to sites and motifs from a cultural perspective that would never be available otherwise. Significantly, it placed the Aboriginal parties as the driving force of the work, as owners of site information and records. It also provided a two-way knowledge transfer, where I provided tangible resources and management tools through facilitating visits to significant sites, producing rock art catalogues and conservation assessments while at the same time learning from Aboriginal custodians about

the living cultural landscape that continues to be imbued with spiritual and active elements of the Aboriginal cultural fabric. As the current heritage legislation recognises social values over scientific values, the ability for archaeologists in Queensland to 'work alongside' Aboriginal people as collaborators and teachers has become even more important.

References

- Åaberge, B., Barnard, T., Greer, S. and Henry, R. 2014. Designs on the future: Aboriginal painted shields and baskets of Tropical North Queensland, Australia. *etropic: Value, Transvaluation and Globalization* 13(2): 56-74.
- Abernethy, L.M. 1984. Rainforest Aboriginal shields: Analysis of a technological style. Grad. Dip. Material Culture Unit, James Cook University, Townsville.
- Agnew, N., Deacon, J., Hall, N., Little, T., Sullivan, S., and Taçon, P. 2015. *Rock art: A cultural treasure at risk*. The Getty Conservation Institute, Los Angeles.
- Anderson, C. 1983. Aborigines and Tin Mining in North Queensland: a case study in the anthropology of contact history. *Mankind* 13(6): 473–498.
- Anderson, C. 1984. The political and economic basis of Kuku-Yalanji social history. Ph.D. thesis, University of Queensland.
- Anderson, C. 1989. Aborigines and conservation: the Daintree-Bloomfield Road. *Australian Journal of Social Issues*, 24(3): 214–227.
- Anderson, C. 1996. Traditional material culture of the Kuku-Yalanji of Bloomfield River, north Queensland. *Records of the South Australian Museum*, 29(1): 63–83.
- Anderson, C. 2016. Multiple Views of Paradise: Perspectives in the Daintree rainforest. In Verstraete, J.-C. and Hafner, D. (Eds.) *Land and Language in Cape York Peninsula and the Gulf Country*. John Benjamins Publishing Company, Amsterdam/Philadelphia: 264–284.
- Andersson, R., Östlund, L., and Lundqvist, R. 2005. Carved trees in grazed forests in boreal Sweden – analysis of remaining trees, interpretation of past land-use and implications for conservation. *Vegetation History and Archaeobotany* 14(2): 149-158.
- Anschuetz, K., Wilshusen and Scheick, C. 2001. An archaeology of landscapes: Perspectives and directions. *Journal of Archaeological Research* 9(2): 157-211.
- Arsenault, D. 2004. From natural settings to spiritual places in the Algonkian sacred landscape: an archaeological, ethnohistorical and ethnographic analysis of Canadian Shield rock-art sites. In Chippindale C. and Nash, G. (Eds.) *The figured landscapes of rock-art: looking at pictures in place*. Cambridge University Press, United Kingdom: 218-317.

Aubert, M., Brumm, A., Ramli, M., Sutikna, T., Saptomo, E.W., Hakim, B., Morwood, M.V., van den Bergh, G.D., Kinsley, L. and Dosseto, A., 2014. Pleistocene cave art from Sulawesi, Indonesia. *Nature*, 514(7521): 223-227.

Australia ICOMOS. 2013. The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013. Deakin University, Burwood, Victoria.

Australian Institute of Aboriginal and Torres Strait Islander Studies. 2011. Guidelines for Ethical Research in Australian Indigenous Studies. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Bahn, P.G. and Lorblanchet, M. 1993. Introduction. Rock Art Studies: The Post Stylistic Era or Where do we go from here? In M. Lorblanchet and P.G. Bahn (Eds) *Oxbow Monograph* 35, The Short Run Press, Exeter: v-viii.

Balme, J., Davidson, I. McDonald, J. Stern N. and Veth, P. 2009. Symbolic behaviour and the peopling of the southern arc route to Australia. *Quaternary International* 202: 59-68.

Banfield, E.J. 1908. *Confessions of a Beachcomber*. T.F Unwin, London.

Bannink, P. and Weiss, W. 2014. Caves and karsts of the Melody Rocks limestone area. Trip Report 431, Chillagoe Caving Club Inc.

Barber, I.G. 2012. Archaeological art debates and Polynesian images in place. *World Archaeology* 44(3): 436–451.

Barber, I.G., Maxwell, J. and Hemi, R. 2014. Growing images: generating 3D digital models to investigate archaeological Moriori carvings on live trees. *World Archaeology* 46(1): 63–77.

Baumgart, B. 2016. How Ancient Native American Rock Art Is Tearing a California Town Apart https://www.vice.com/en_us/article/how-ancient-native-american-rock-art-is-tearing-a-california-town-apart (15 June 2017).

Bednarik, R.G. 2007. *Rock Art Science: The Scientific Study of Palaeoart*. Aryan Books International, New Delhi.

Bell, D. 1982. Aboriginal carved trees of Southeastern Australia: A research report to N.S.W. National Parks and Wildlife Service.

Bentrupperbäumer, J.M. 2002. Davies Creek site level data report 2001/2002. Cairns. Cooperative Research Centre for Tropical Rainforest Ecology and Management, James Cook University.

- Black, L. 1941. *Burial trees. Being the first of a series on the Aboriginal customs of the Darling Valley and Central New South Wales*. Robertson and Mullins, Melbourne.
- Blackstock, M. 2001 *Faces in the forest: First Nations art created on living trees*. McGill-Queen's University Press, Quebec.
- Blundell, V. and Woolagoodja, D. 2012. Rock art, Aboriginal culture, and identity: the Wanjina paintings of northwest Australia. In McDonald, J. and Veth, P. *A Companion to Rock Art*, Wiley-Blackwell Publishing, Oxford: 472-487.
- Bird Rose, D. 1992. *Dingo makes us human: Life and land in Aboriginal Australian culture*. Cambridge University Press.
- Birdsell, J.B. 1993. *Micoevolutionary Patterns in Aboriginal Australia*. Oxford University Press, New York.
- Birtles, T. 1997. Aboriginal use and rainforest clearing on the Atherton Tablelands before 1920. *Australia's ever changing forests III: Proceedings of the Third National Conference on Australian Forest History*. J. Dargavel (Ed.) Centre for Resource and Environmental Studies, Australian National University, Canberra: 169-187.
- Bolton, G.C. 1963. *A thousand miles away: a history of North Queensland to 1920*. Jacaranda Press, Brisbane.
- Bolton, G. 1965 *Richard Daintree: a photographic memoir*. Jacaranda Press, Australian National University, Canberra.
- Bottoms, T. 1990. Djarrugan, the last of the nesting: a revisionist interpretation of aboriginal-European relations in the Cairns rainforest region up to 1876. M.A. Thesis James Cook University, Cairns.
- Bottoms, T. 1992. *The Bama: People of the rainforest, Aboriginal – European relations in the Cairns rainforest region up to 1876*. Gadjia Enterprises, Cairns.
- Bottoms, T. 1999. *Djabugay Country: An Aboriginal history of tropical north Queensland*. Allen and Unwin, Sydney.
- Bottoms, T. 2013. *Conspiracy of silence: Queensland's frontier killing time*. Allen and Unwin, Sydney.
- Bottoms, T. 2015. *Cairns city of the South Pacific: A history 1770-1995*. Bunu Bunu Press, Edge Hill.

- Bradley, R. 2008. Review Feature - Material culture and text: The art of ambiguity. *Cambridge Archaeological Journal* 3(1): 112-113.
- Brady, L. 2004. Painting patterns: Torres Strait region rock art. PhD thesis, Monash University, Victoria.
- Brady, L. 2007. A different look: Comparative rock-art recording from the Torres Strait using computer enhancement techniques. *Australian Aboriginal Studies* 1: 98-115.
- Brady, L. 2008. Symbolic language in Torres Strait, North East Australia: Images from rock art, portable objects and human scars. *Antiquity* 82(316): 336-350.
- Brady, L. 2010. *Pictures, patterns and objects: rock art of the Torres Strait Islands, Northeast Australia*. Australian Scholarly Publishing, North Melbourne.
- Brady, L. and Bradley, J. 2014. Images of relatedness: Patterning and cultural contexts in Yanyuwa rock art, Sir Edward Pellow Islands, SW Gulf of Carpentaria, Northern Australia. *Rock Art Research* 31(1): 1-20.
- Brady, L. and Crouch, J., 2010. Partnership archaeology and indigenous ancestral engagement in Torres Strait, Northeastern Australia. *Handbook of Postcolonial Archaeology* 3:413.
- Brady, L. and A. Kearney. 2016. Sitting in the gap: ethnoarchaeology, rock art and methodological openness. *World Archaeology* 2016:1-14
- Brady, L.M. and Taçon, P. 2016. Establishing new ground: Reflexive/ reflective thinking and plotting a future for studying rock art in contemporary contexts. In Brady, L. M., and Taçon, P. S. (Eds.) *Relating to rock art in the contemporary world: Navigating symbolism, meaning, and significance*. University Press of Colorado: 363-370.
- Brandl, E.J. 1973. *Australian Aboriginal paintings in western and central Arnhem Land: temporal sequences and elements of style in Cadell River*. Australian Institute of Aboriginal Studies, Canberra.
- Brayshaw, H., 1975. Aboriginal material culture in the Herbert/ Burdekin District: a cultural crossroads? *Lectures in North Queensland History*: 139-151.
- Brayshaw, H. 1990. *Well beaten paths Aborigines of the Herbert/Burdekin district, North Queensland: An ethnographic and archaeological study*. Department of History, James Cook University, Townsville.
- Brown, R. 1993. Bare Hill rock art conservation: Photographic recording and condition report. Report to Environmental Protection Agency.

Brown, R. 2003. Graffiti removal at Davies Creek Campsite #2 (FM:B41) Davies Creek National Park, Queensland. Report to Environmental Protection Agency.

Buhrich, A. 2013a. Mamu Carved Trees. Report to Dugulbarra clan group and Mamu Aboriginal Corporation.

Buhrich, A. 2013b. Preservation of the Charmillon Creek Carved Tree. Report to Wabubadda Aboriginal Corporation.

Buhrich, A. 2014a. A New Look: Davies Creek rock art enhancements. Report to Willie Brim.

Buhrich, A. 2014b. Davies Creek rock art records. Report to Willie Brim.

Buhrich, A. 2014c. Silver Valley rock art. Report to Wabbubadda Aboriginal Corporation.

Buhrich, A. 2014d. Maple Creek carved trees, Wooroonooran National Park. Report to Wet Tropics World Heritage Management Authority, Dugulbarra clan and Mamu Aboriginal Corporation.

Buhrich, A. 2015a. Mt Windsor dendroglyph. Report to Western Yalanji Aboriginal Corporation.

Buhrich, A. 2015b. Upper Freshwater Creek dendroglyph. Report to Queensland Museum and Gimuy Yidinji Aboriginal Corporation.

Buhrich, A. 2015c. Mamu stone tool catalogue. Report to Mamu Aboriginal Corporation.

Buhrich, A. 2015d. Bunda Bibanji rock art records. Report to Willie Brim.

Buhrich, A. 2015e. Malanbarra Yidinji art site recording. Report to Frank Royee.

Buhrich, A. 2015f. Gilberton Rock Art Inspection May 2015. Report to Ewamian Aboriginal Corporation.

Buhrich, A. 2016. Yirrgayndji rock art. Report to Yirrganydji Aboriginal Corporation and Dawul Wuru Aboriginal Corporation

Buhrich, A. 2017a. Mamu cultural site recording Wooroonooran National Park, digital enhancement and 3D laser scanning of rock art and carved trees. Report to Mullen Bun Goon Ltd.

Buhrich, A. 2017b. Mamu cultural site recording Wooroonooran National Park, digital enhancement and 3D laser scanning of rock art and carved trees (public version). Report to Mullen Ban Goon Ltd and Department of Environment and Heritage.

Buhrich, A. 2017c. Rock art recording Waterfall Site, Walsh's Bluff. Report to Mbabaram Aboriginal Corporation and RATCH-Australia Corporation Ltd.

Buhrich, A. 2017d. Rock art recording Mount Emerald Wind Farm. Report to Mbabaram Aboriginal Corporation and RATCH-Australia Corporation Ltd.

Buhrich, A. in prep. Revisiting the Silver Valley snake site 2017. Report to Wabubadda Aboriginal Corporation.

Buhrich, A. and Djabugay Tribal Aboriginal Corporation. 2009. Cultural Heritage Study. Removal of 110 000kV transmission line, Bridle Creek Road, Lamb Range, north Queensland. Report to Powerlink Queensland.

Buhrich, A., Ferrier, Å. and Grimwade, G. 2015. Attributes, preservation and management of dendroglyphs from the Wet Tropics rainforest of northeast Australia. *Australian Archaeology*, 80: 91–98.

Buhrich, A., F. Goldfinch and Greer, S. 2016. Connections, transactions and rock art within and beyond the Wet Tropics of north Queensland. In Greer, S., Henry, R. and Wood, M. (Eds.) *Transactions and transformations: artefacts of the wet tropics, North Queensland. Memoirs of the Queensland Museum* 10: 23-42.

Buhrich, A. Leavesley, M. and Greer, S. 2014. JCU Rock Art Field School Mount Claro 2013. Report to Gugu Badhun Aboriginal Corporation.

Buhrich, A. and Reepmeyer, C. 2016. Rock Art Field School Mount Claro 2015. Report to Gugu Badhun Aboriginal Corporation.

Buhrich, A. and Winn, N. 2014. Melody Rocks: Cultural Heritage Assessment. Report to South Endeavour Trust.

Bureau of Meteorology 2016. Climate Data Online. From <http://www.bom.gov.au/climate/data/?ref=ftr> (22 October 2016)

Campbell, J.B. 1979. Settlement patterns on offshore islands in Northeastern Queensland. *Australian Archaeology* 9: 18-32.

Campbell, J.B. 1982. New radiocarbon results for North Queensland prehistory. *Australian Archaeology* 14:62-66.

Campbell, J. B. 1984. Extending the archaeological frontier: a review of work on the prehistory of north Queensland. *Queensland Archaeological Research* 1: 173-184.

Campbell, J., Cole, N., Hatte, E., Tuniz, C. and Watchman, A. 1996. Dating of rock surface accretions with Aboriginal paintings and engravings in North Queensland. In Ulm, S., Lilley, I. and Ross, A. (Eds.) *Australian Archaeology '95: Proceedings of the 1995 Australian Archaeological Association Annual Conference*, Tempus 6: 231-239.

Carmody, J. 2011. *Wet Tropics of Queensland World Heritage Area Tour Guide Handbook*. James Cook University, Cairns.

Carron, W. 1849. Narrative of an expedition, undertaken under the direction of the late Mr Assistant Surveyor E.B. Kennedy, for the exploration of the country lying between Rockingham Bay and Cape York. *Australiana Facsimile Editions No. 9*, Libraries Board of South Australia, Adelaide.

Chaloupka, G. 1993. *Journey in Time: the world's longest continuing art tradition: the 50,000 year story of the Australian Aboriginal rock art of Arnhem Land*. Reed Books, Chatswood.

Clarke, A. 2002. The ideal and the real: Cultural and personal transformations of archaeological research on Groote Eylandt, northern Australia. *World Archaeology* 34(2): 249-264.

Clarkson, C., Jacobs, Z., Marwick, B., Fullager, R., Wallis, L., Smith, M., Roberts, R., Hayes, E., Lowe, K., Carah, X., Florin, A., McNeil, J., Cox, D., Arnold, L.J., Hua, Q., Huntley, J., Brand, H., Manne, T., Fairbairn, A., Shulmeister, J., Lyle, L., Salinas, M., Page, M., Connell, K., Park, G., Norman, K., Murphy, T. and Pardoe, C. 2017. Human occupation of northern Australia by 65,000 years ago. *Nature* 547: 306-310.

Clegg, J. 1978 MA thesis words, MA thesis pictures. Unpublished MA (Hons) thesis, University of Sydney.

Clegg, J. 1983. From the Study of Aboriginal Art to the Archaeology of Prehistoric Pictures. *Australian Archaeology* 16(1): 87-91.

Clottes, J. 2008. Review Feature - Material Culture and Text: The Art of Ambiguity. *Cambridge Archaeological Journal* 3(1): 121-123.

Coats, C. 2011. Spiritual tourism—promise and problems: The case of Sedona, Arizona. *Media, Spiritualities and Social Change* (2016): 117-126.

Coats, C. 2009. Sedona, Arizona: New age pilgrim-tourist destination. *Cross Currents* (59): 383-396.

Cole, N. 1992 'Human' motifs in the rock paintings of Jowalbinna, Laura. In McDonald, J. and Haskovec, I. (Eds.) *State of the Art: Regional Rock Art Studies in Australia and Melanesia Occasional AURA Publication* 6: 164-173.

Cole, N. 1998. Eel and Boomerang: An Archaeological Study of Stylistic Order and Variability in Aboriginal Rock Art of the Laura Sandstone Province, Cape York Peninsula, Australia. PhD thesis, James Cook University.

Cole, N. 2010. Ancient art and modern Australians: evidence for continuity in an Aboriginal knowledge system. *Congres de IFRAO, September 2010 - Symposium: L'art pleistocene en Australie (Pre-Actes)*.

Cole, N. in association with Girringun Aboriginal Corporation. 2010. Aboriginal rock art sites at Rocky Point, Cardwell. Report to Powerlink Queensland.

Cole, N., 2016. Regions without borders related rock art landscapes of the Laura Basin, Cape York Peninsula. In Verstraete, J.-C. and Hafner, D. (Eds.) *Land and Language in Cape York Peninsula and the Gulf Country*. Amsterdam/Philadelphia: John Benjamins Publishing Company: 61-84.

Cole, N. and Buhrich, A. 2012. Endangered Quinkans: Forty years of cultural heritage management in the Quinkan region, Cape York Peninsula. *Australian Archaeology* 75: 66-77.

Cole, N. and David, B. 1992. Curious drawings at Cape York Peninsula. *Rock Art Research* 9(1): 3-26.

Cole, N. and Musgrave, G., 2006. Colouring Stone: Examining categories in rock art. *Rock Art Research* 23(1): 51-58.

Cole, N. and Watchman, A. 2005. AMS dating of rock art in the Laura region, Cape York Peninsula, Australia - protocols and results of recent research. *Antiquity* 79(305): 661-679.

Commonwealth Government. 2012. Inclusion of additional values for a place listed in the National Heritage List. *Commonwealth of Australia Gazette* No. S169, 12 Nov 2012.

Conkey, M.W. 1987. New approaches in the search for meaning? A review of research in Paleolithic art. *Journal of Field Archaeology* 14: 413-430.

Conkey, M.W. 1990. Experimenting with style in archaeology: some historical and theoretical issues. In Conkey, M.W. and Hastorf, C.A. (Eds.) *The Uses of style in archaeology*. University of Minnesota. Dept. of Anthropology, Cambridge University Press: 5-17.

- Conkey, M.W. 2001. Structural and semiotic approaches. In Whitney, D. S. (Ed.) *Handbook of Rock Art Research*. Altamira Press, California.
- Conkey, M.W. 2012. Redefining the mainstream with rock art. In McDonald, J. and Veth, P. (Eds.) *A Companion to Rock Art*. Wiley-Blackwell Publishing, Oxford: xxiv-1.
- Connell, J. H., and Green, P. T. 2000. Seedling dynamics over thirty-two years in a tropical rain forest tree. *Ecology* 81(2): 568-584.
- Cosgrove, R. 1984. A stylistic and use wear study of the *ooyurka*. Master of Arts, James Cook University, Townsville.
- Cosgrove, R. 1996. Origin and development of Australian Aboriginal tropical rainforest culture: a reconsideration. *Antiquity* 70(270): 900-12.
- Cosgrove, R. 1999. Rainforest Archaeological Project Report No 2. Archaeological Survey of the Russell and Johnstone Rivers, 18 June – 10 July 1998. Dept Archaeology, La Trobe University, Melbourne.
- Cosgrove, R., Field, J. and Ferrier, Å., 2007. The archaeology of Australia's tropical rainforests. *Palaeogeography, Palaeoclimatology, Palaeoecology* 251(1):150–173.
- Cosgrove, R. and Rayment, E., 2002. Jiyer Cave revisited: Preliminary results from northeast Queensland rainforest. *Australian Archaeology* 54: 29–36.
- Coy, F.J. 2009. Native American Dendroglyphs of the Eastern Woodlands. In Diaz-Granados, C. and Duncan, J.R. (Eds.) *The Rock Art of Eastern North America: Capturing Images and Insight*: 3–16.
- D'Albertis, L.M. 1880. *New Guinea: what I did and what I saw*. Volume 1. Sampson Low, Marson, Searle and Riverington, London.
- Dalrymple, G.E. 1865. On the New Settlement in Rockingham Bay, and Advance of Colonization over North-Eastern Australia; including Mr. G.E. Dalrymple's Report on His Journey from Rockingham Bay to the Valley of Lagoons. *The Journal of the Royal Geographical Society of London* 35: 191-212.
- Dalrymple, G.E., 1874. *Narrative and reports of the Queensland North-east Coast Expedition, 1873*. Government Printer, South Africa.
- Dargavel, J. and Moloney, D. 1997. Australia's Ever Changing Forests III: *Proceedings of the Third National Conference on Australian Forest History* Centre for Resource and Environmental Studies, The Australian National University: 74-88.

- David, B. 1991. Fern Cave, Rock Art and Social Formations: Rock Art Regionalisation and Demographic Models in Southeastern Cape York Peninsula. *Archaeology in Oceania* 26(2): 41-57.
- David, B. 1994. The Trinity Inlet ethnographic study: planning the management of traditional Yirrganydji, Yidinji and Gunggandji Country. Report to Trinity Inlet Management Program, Cairns.
- David, B. 2002. *Landscapes, rock-art and the dreaming: an archaeology of preunderstanding*. Leister University Press, Leister.
- David, B. and Ash, J. 2008 What do Early European Contact Period Villages in Torres Strait Look Like? *Memoirs of the Queensland Museum* 4(2): 303-326.
- David, B. and Chant, D. 1995. *Rock art and regionalisation in north Queensland prehistory*. Queensland Museum, Brisbane.
- David, B. and Cole, N. 1990. Rock art and inter-regional interaction in northeastern Australian prehistory. *Antiquity* 64(245): 788-806.
- David, B., Geneste, J-M., Petchey, F., Delannoy, J.-J., Barker, B., and Eccleston, M. 2013. How old are pictographs? A review of rock art dating. *Journal of Archaeological Science*, 40: 3–10.
- David, B. and H. Lourandos 1998. Rock art and social-demography in northeastern Australian prehistory. *World Archaeology* 30(2): 193-219.
- Dean, C. 1997. The Kokopelli Dilemma. The Use, Abuse, and Care of Rock Art. *WAAC Newsletter* 19(3). <http://cool.conservation-us.org/waac/wn/wn19/wn19-3/wn19-309.html>
- DeWalt, K.M. and DeWalt, B.R. 2011. *Participant observation: a guide for fieldworkers*, AltaMira Press, Walnut Creek, California.
- DeWalt, K.M., DeWalt, B.R. and Wayland, C.B. 1998. Participant observation. In Bernard, H.R. (Ed.), *Handbook of methods in cultural anthropology*. AltaMira Press, Walnut Creek, California: 259-299.
- Dixon, R.M.W. 1972. *The Dyirbal language of north Queensland*. Cambridge Studies in Linguistics Vol 9. Cambridge University Press, London.
- Dixon, R.M.W. 1976. Tribes, languages and other boundaries in northeast Queensland. In Peterson, N. (Ed) *Tribes and Boundaries in Australia*, Australian Institute of Aboriginal Studies, Canberra: 207-238.

- Dixon, R.M.W. 1977. *A Grammar of Yidjñ*. Cambridge Studies in Linguistics Vol 19. Cambridge University Press, London.
- Dixon, R.M.W. 1983. *Searching for Aboriginal languages. Memoirs of a field worker*. University of Queensland Press, St Lucia.
- Dixon, R.M.W. 1991. Mbabaram. In Dixon, R.M.W. and Black, B.J. *The Handbook of Australian Languages Vol 4*. Oxford University Press, Melbourne: 348-410.
- Dixon, R.M.W. 1996 Relationships, origin legends and linguistics. *Oceania* 67(2): 127-139.
- Dixon, R.M.W. 1997. Christie Palmerston: A reappraisal. *Aboriginal History* 21: 162–169.
- Dixon, R.M.W. 2002. Genetic subgroups and small linguistic areas. *Australian languages: their nature and development* (Vol. 1). Cambridge University Press: 659-689.
- Dixon, R.M.W. 2009. Language Contact in the Cairns Rainforest Region. *Anthropological Linguistics* 50 (3-4): 223-48.
- Dixon, R.M.W. 2015. *Edible gender, mother-in-law style and other grammatical wonders. Studies in Dyrribal, Yidiñ and Warrgamay*. Oxford University Press.
- Domingo, I.S. 2011. The rock art scenes at Injalak Hill: Alternative visual records of Indigenous social organisation and cultural practices. *Australian Archaeology* 72(15): 15-22.
- Domingo, I.S., Fiore, D. and May, S.K. 2009. Archaeology of art: time, place and identity in rock art, portable art, and body art. In Domingo, I.S., May, S. and Fiore, D. (Eds.), *Archaeologies of Art, Time, and Place*: 15–28.
- Domingo, I.S., May, S.K. and Smith, C.E. 2016. Communicating through rock art: an ethnoarchaeological perspective. *Signes et Communication dans les Civilisations de la Parole, Édition Electronique du CTHS (Actes des Congres des Sociétés Historiques et Scientifiques)* 2016: 9-26.
- Doring, J. and Nyawarra, P. 2014. Gwion Artists and Wunan Law: The Origin of Society in Australia. *Rock Art Research* 31(1): 3-13.
- Edwards, R. 2007. *Aboriginal rock art of the Gulf and Cape York*. Ramskull Press, Kuranda.
- Environmental Protection Agency. 1999. *State of the Environment Queensland 1999*. Environmental Protection Agency, Brisbane.

- Etheridge, R. (Jnr). 1918. The Dendroglyphs, or “Carved Trees” of New South Wales. *Memoirs of the Geological Survey of New South Wales*. William Applegate Gullick, Government Printer, Sydney.
- Erckenbrecht, C. 2016. The politics of time: Hermann Klaatsch in the Wet Tropics and the fate of his ethnographic collection in Europe. *Transactions and transformations: artefacts of the wet tropics, north Queensland*. *Memoirs of the Queensland Museum* 10:93-106.
- Erckenbrecht, C, Fuary, M., Greer, S., McGregor, R., Wood, M. 2010. Artefacts and collectors in the tropics of North Queensland. *The Australian Journal of Anthropology* 21:350–366.
- Ericsonn, T. and Andersson, R. 2003. Destroying a Path to the Past – the Loss of Culturally Scarred Trees and Change in Forest Structure along Allmunvägen, in Mid-West Boreal Sweden. *Silva Fennica* 37(2): 283-198.
- Everett, K., 2010. Urban Aboriginal ceremony: when seeing is not believing. In Peters-Little, F., Curthoys, A. and Docker, J. (Eds.) *Passionate histories: Myth, Memory and Indigenous Australia*. Australian University Press, Canberra: 229–245.
- Ewington, J. 2003. Working in the river: baskets of the rainforest. *Story Place: Indigenous art of Cape York and the rainforest*. Queensland Art Gallery, Brisbane.
- Ferrier, Å. 2006. Dr Eric Mjöberg’s 1913 scientific exploration of north queensland’s rainforest region. *Memoirs of the Queensland Museum, Cultural Heritage Series* 4(1): 1–27.
- Ferrier, Å. 2015. Journeys into the rainforest: Archaeology of culture change and continuity of the Evelyn Tableland, North Queensland. *Terra Australis* 43, Australian University Press, Canberra.
- Ferrier, Å., and Cosgrove, R. 2008. Aboriginal exploitation of toxic nuts as a late- Holocene subsistence strategy in Australia’s tropical rainforests. *Terra Australia* 34: 103–120.
- Field, J., Cosgrove, R., Fullager, R. and Lance, B. 2009. Starch residues on grinding stones in private collections: a study of morahs from the tropical rainforests of northeast Queensland. *Terra Australis* 30: 228-238.
- Field, J., Kealhofer, L., Cosgrove, R. and Coster, A. 2015. Human-environment dynamics during the Holocene in the Australian Wet Tropics of NE Queensland: A starch and phytolith study. *Journal of Anthropological Archaeology* 44: 216-234.
- Fourmile. H. 1996. The *Queensland Heritage Act 1992* and the *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987* (Qld): Re Koara People *Australian Indigenous Law Reporter* 82, 1(4): 507-529.

- Franklin, N. 2007. Discontinuous Dreaming networks: analyses of variability in Australian pre-historic petroglyphs. *Rock Art Research* 24(1): 79–103.
- Fuery, M. 2009. An evaluation of previous and current methods and models for researching Indigenous resource use and purposes, with recommendations for “best practice” research solutions. Rainforest CRC, Cairns, James Cook University.
- Gaby, A. 2008. Rebuilding Australia's Linguistic Profile: Recent developments in research on Australian Aboriginal languages. *Language and Linguistics Compass* 2(1):211-233.
- Gale, F. and Jacobs, J.M., 1987. Tourists and the National Estate. Procedures to protect Australia's heritage. *Special Australian Heritage Publication Series, Australian Heritage Commission, (7)*, Canberra.
- Gamble, C. 1982. Interaction and alliance in Palaeolithic society. *Man* 1: 92-107.
- George, T., Musgrave, G. and the Ang-Gnarra Rangers. 1995. *Our country, our art, our Quinkans*. Ang-Gnarra Aboriginal Corporation, Laura.
- Gigacz, M. 2012. People, lizards, lines: The rock art of the Watsonville region, far north Queensland, and its implications in the study of regionalisation in south east Cape York. Honours thesis, La Trobe University, Melbourne.
- Goldfinch, F. 2014. *Of bananas and shields: Rock art in the Townsville region*. Honours thesis, James Cook University, Townsville.
- Goosem, S. and Tucker, N. 2013. *Repairing the rainforest*. Wet Tropics Management Authority and Biotropica Australia Pty. Ltd., Cairns.
- Greer, S. 1996. Archaeology, heritage and identity in Northern Cape York Peninsula. In Ulm, S., Lilliey, I. and Ross, A. *Australian Archaeology '95: Proceedings of the 1995 Australian Archaeological Association Annual Conference Tempus* 6. University of Queensland, St Lucia: 293–299.
- Greer, S. 2014. The Janus View: Reflections, Relationships and a Community-Based Approach to Indigenous Archaeology and Heritage in Northern Australia. *Journal of Community Archaeology and Heritage* 1(1): 56-68.
- Greer, S. and Fuery, M. 1987. The evolution of community based archaeology in Northern Cape York Peninsula. Unpublished conference paper presented at the ANZAAS Conference, Townsville.

Greer, S. and Fuary, M. 2008. Community consultation and collaborative research in Northern Cape York Peninsula - a retrospective. *Archaeological Heritage* 1(1): 5–15.

Greer, S, Harrison, R. and McIntyre-Tamwoy, S. 2002. Community-based archaeology in Australia. *World Archaeology* 34(2): 265-287.

Greer, S. and Henry, R. 1996. The politics of heritage: the case of the Kuranda Skyrail. Jackson-Nakano, J.F. (Ed.), *Heritage and Native Title: Anthropological and Legal Perspectives*. Proceedings of a Workshop conducted by the Australian Anthropological Society and the Australian Institute of Aboriginal and Torres Strait Islander Studies. The Australian National University, Canberra.

Greer, S., Henry, R., McGregor, R. and Wood, M. 2016. Aboriginal artefacts, collectors and the Wet Tropics: an introduction. *Transactions and transformations: artefacts of the wet tropics, north Queensland. Memoirs of the Queensland Museum* 10:1-8.

Greer, S., Henry, R., and McIntyre-Tamwoy, S. 2015. Mainland magic: interpreting cultural influences across Cape York–Torres Strait. *Quaternary International* 385: 69-78.

Grimwade, G. 1990. A Report of the carved Trees in the Wet Tropics of Northeast Queensland. Report to the (Queensland) Department of Environment and Heritage.

Grimwade, G. 1993. Carved trees of the Wet Tropics. Report to the Queensland Department of Environment and Heritage, Cairns.

Grimwade, G., Mickan, K. and Darroch, A., 1995. Moulding and Casting of Aboriginal Carved Trees, *Australian Archaeology* 41: 15-21.

Gunn, R.G. 2011. Twenty-five years of Australian rock art research. *Rock Art Research* 28(1): 3–6.

Gunn, R.G. Mitchell, M.B. and Webb, R.E. 2017. Rock art of the Esperance region and its place in the Noongar traditions of south-west Western Australia. *Rock Art Research* 34(1): 55-81.

Gunn, R.G. and Thorn, A. 1994. *Aboriginal Rock Art in the Wet Tropics World Heritage Area, Northern Queensland*. Report to Department of Heritage and Environment, Cairns.

Habgood, P. and Franklin, N. 2008. The revolution that didn't arrive: A review of Pleistocene Sahul. *Journal of Human Evolution* 55: 187-222.

Hale, R. 1989. Painted designs on rainforest Aboriginal shields from north Queensland: An analysis of correlations between design styles and geographical distribution. Grad. Dip. thesis, James Cook University.

- Hale, H. and Tindale, N. 1933. Aborigines of Princess Charlotte Bay, North Queensland. *Records of the South Australian Museum* 5(1): 117-172.
- Hampson, J. 2015. *Rock Art and Regional Identity, a Comparative Perspective*. Left Coast Press, Walnut Creek, California.
- Hampson, J. 2016. Presenting rock art and perceiving identity in South Africa and beyond. *Time and Mind The Journal of Archaeology, Consciousness and Culture*, 8(4): 373–391.
- Hatte, L. 1992. “Boring Coastal Stuff”: rock images of the Townsville district, north Queensland. *Occasional AURA publication* 6: 71–75.
- Henry, R. 2016. From Flame to Fame: Transformations of firesticks to art in North Queensland. Greer, S. Henry, R. and Wood, M. (Eds.). *Transactions and transformations: artefacts of the wet tropics, North Queensland. Memoirs of the Queensland Museum* 10: 59-76.
- Hilbert, D.W., Graham, A. and Hopkins, M.S. 2007. Glacial and interglacial refugia within a long-term rainforest refugium: The Wet Tropics Bioregion of NE Queensland, Australia. *Palaeogeography, Palaeoclimatology, Palaeoecology* 251(1): 104–118.
- Hill, J. 2013 Preservation of the Jirrbal Carved Tree. Report to Alice Buhrich, James Cook University.
- Hill, R., and Baird, A. 2003. Kuku—Yalanji Rainforest Aboriginal People and Carbohydrate Resource Management in the Wet Tropics of Queensland, Australia. *Human Ecology* 31(1): 27-52.
- Hill, R., Baird, A. and Buchanan, D. 1999. Aborigines and fire in the Wet Tropics of Queensland, Australia: ecosystem management across cultures. *Society and Natural Resources* 12(3): 205-223.
- Hill, R., and Griggs, P. 2000 Bamanga Bubu Ngadimunku Inc. Rainforests, agriculture and aboriginal fire-regimes in wet tropical Queensland, Australia. *Australian Geographical Studies* 38: 138-157.
- Hill, R., Cullen-Unsworth, L. ., Talbot, L.D. and McIntyre-Tamwoy, S. 2011 rainforest culture – Wet Tropics area. *International Journal of Heritage Studies* 17(6): 571-591.
- Hopkins, M.S., Ash, J., Graham, A., Head, J. and Hewett R.K. 1993. Charcoal evidence of the spatial extent of the Eucalyptus woodland expansions and rainforest contractions in North Queensland during the late Pleistocene. *Journal of Biogeography* 20: 357-372.
- Horsfall, N. 1984. Theorising about northeast Queensland prehistory. *Queensland Archaeological Research* 1:164-172.

Horsfall, N., 1987. Living in Rainforest: The Prehistoric Occupation of North Queensland's Humid Tropics Vol 1. Ph.D. thesis, James Cook University.

Horsfall, N. 1990. Full Report on Field trip to the Mystery Creek Area, South of Topaz, 6-14 October 1990.

Horsfall, N. 1994. Bare Hill rock art sites, North Queensland Australia: Co-operation in Indigenous site management. *Archaeological Remains In-Situ Preservation. Proceedings of the Second ICAHM International Conference, Montreal Oct 1994*. ICAHM Publication, Ottawa, Canada: 339-346.

Horsfall, N. and Hunter, B. 1996. Bunda dibanji, Queensland. In Proust, K. (Ed.) *Mouments and Sites Australia, Sri Lanka National Committee of ICOMOS*. State Printing Corporation, Panaluwa, Padukka: 62-64.

Horton, D. 1987. Editorial. *Australian Aboriginal Studies* 2:1

Huchet, B. 1990. The identification of cicatrices depicted on anthropomorphs in the Laura region, North Queensland. *Rock Art Research* 7(1): 27-43.

Hutson, S.R., Can Herrera, G. and Chi, G.A., 2013. Maya heritage: entangled and transformed. *International Journal of Heritage Studies* 7258: 1-17.

Ivakhiv, A. J. 2001 *Claiming sacred ground: Pilgrims and politics at Glastonbury and Sedona*. Indiana University Press.

Jaeger, T. and Sand, C. 215. Reactive monitoring mission to the Tasanian Wilderness 23-29 November 2015. Report to the International Council on Monuments and Sites – ICOMOS International Union for Conservation of Nature IUCN.

Jefferson, C. 1955. The dendroglyphs of the Chatham Islands. *The Journal of the Polynesian Society* 6(4): 367-441.

Johnstone, R. A. 1874. Report of the expedition. *Queensland Legislative Assembly. Votes and Proceedings* 2 (1874): 656-661.

Johnstone, R.A. 1904. Reminiscences of Pioneering in Northern Queensland. *Spinifex and Wattle; The Queenslander*, 30 July 1904.

Kahn, K. 1993. Catalogue of the Roth collection of Aboriginal artefacts from north Queensland: Items collected from Archer River, Atherton, Bathurst Head, Bloomfield River and Butcher's Hill 1897-1901. *Technical Reports of the Australian Museum* 10: 1-205.

King, P.P. (1827). Narrative of a survey of the intertropical and western coasts of Australia performed between the years 1818 and 1822 (Vol. 1). John Murray, London.

Klaatsch, H. 1923 *The Evolution and Progress of Mankind*. Fischer and Unwin, London.

Klahoose First Nation. 2013. Klahoose Cultural Modified Tree Ceremony. <http://klahoose.org/klahoose-cultural-modified-tree-ceremony/> (25 August 2013).

Lahelma, A. 2007. "On the Back of a Blue Elk": Recent Ethnohistorical Sources and "Ambiguous" Stone Age Rock Art at Pyhänpää, Central Finland. *Norwegian Archaeological Review* 40(2): 113–137.

Laurance, W.F. and Goosem, M. 2008, Impacts of habitat fragmentation and lineal clearings on Australian rainforest biota. In Stork, N. and Turton, S. (Eds.) *Living in a Dynamic Tropical Forest Landscape*. Blackwell Publishing, Oxford: 295–306.

Layton, R. 1992. *Australian Rock Art: A New Synthesis*. Cambridge University Press, Cambridge.

Layton, R. 2000. Intersubjectivity and understanding rock art. *Australian Archaeology* (51): 48–53.

Layton, R. 2012. Rock Art, identity and indigeneity. In McDonald, J. and Veth, P. (Eds) *A Companion to Rock Art*, Wiley-Blackwell Publishing, Oxford: 439–454.

Leigh Jr, E.G., Davidar, P., Dick, C.W., Puyravaud, J.P., Terborgh, J., ter Steege, H. and Wright, S.J. 2004. Why do some tropical forests have so many species of trees? *Biotropica* 36(4): 447–473.

Le Seouf, D. 1896. Ascent of Peter Botte, North Queensland. *Victorian Naturalist*, 13(12): 151–167.

Lewis-Williams, D. 2002 *A cosmos in stone: Interpreting religion and society through rock art*. Altamira Press, Walnut Creek, California.

Lewis-Williams, J.D., Bardill, P.N., Bieseke, M., Yearwood, S., Clegg, J., Davis, W., Groenfeldt, D., Inskeep, R.R., Jones, T., Pretty, G. and Sauvet, G., 1982. The economic and social context of southern San rock art [and Comments and Reply]. *Current Anthropology*, 23(4): 429–449.

Loos, N. 1978. Aboriginal resistance in North Queensland. *Lectures on North Queensland History* 3: 233–246.

Lourandos, H. and Ross, A. 1994. The great 'Intensification Debate': Its history and place in Australian archaeology. *Australian Archaeology* 39: 54–63.

Lovell-Pollock, A. 1997. Sandstone survey project. Report to Ewamian Aboriginal Corporation.

Lumholtz, C. 1889. *Among cannibals: an account of four years' travels in Australia and of camp life with the Aborigines of Queensland*. John Murray, University of California.

Mallea-Olaetxe, J. 2001. Carving out history: the Basque aspens. *Forest History Today* Spring/Fall Edition: 44-50.

Mark, R. and Billo, E. 2006. Computer-assisted photographic documentation of rock art. *Coalition CSIC Thematic Network on Cultural Heritage Special Issue: Conservation of Rock Art Part II*: 10-14.

Martin, K.L. 2008. *Please knock before you enter: Aboriginal regulation of outsiders and the implications for researchers*. Post Pressed, Brisbane.

Marshall, Y. 2002. What is community archaeology? *World Archaeology* 34: 211-219.

Marshall, M. and Taçon, P. 2014. Past and present, traditional and scientific. In Darvill, T. and Fernandes, A.P.B. (Eds.) *Open air rock-art conservation and management: State of the art and future perspectives*. Routledge, New York: 214-228.

Mathews, R.H. 1986. Australian ground and tree drawings. *The American Anthropologist* Vol IX (2): 33-49.

May, S., Gurmurdal, D., Manakgu, J., Maralngurra, G. and Nawirridj, W. 2005. 'You write it all down and bring it back ... that's what we want' - Revisiting the 1948 removal of human remains from Kunbarlanja (Oenpelli), Australia. In Smith, C. and Wobst, M. (Eds.) *Indigenous Archaeologies One World Archaeology* Vol 47, Routledge, London: 110-130.

May, S., Taçon, P., Wesley, D. and Travers, M. 2010. Painting history: Indigenous observations and depictions of the 'other' in Northwestern Arnhem Land, Australia. *Australian Archaeology* 71: 57-65.

Maynard, L. 1976. An archaeological approach to the study of Australian rock art. M.A. thesis, University of Sydney.

McCarthy, F. 1939. "Trade" in Aboriginal Australia, and trade relationships with Torres Strait, New Guinea and Malaya. No 2. *Oceania* 10(1): 80-104.

McCarthy, F. 1940. The carved trees of New South Wales. *The Australian Museum Magazine* June 1, 1940: 161-166.

McConnel, U. 1930. The Rainbow-Serpent in North Queensland. *Oceania*, 1(3): 347-349.

- McConnel, U. 1931. Moon legend from the Bloomfield River, North Queensland. *Oceania*, 2(1): 9–25.
- McConnel, U. 1935. Inspiration and design in Aboriginal art. *Art in Australia*: 49–68.
- McConnel, U. 1937. Illustration of the myth of Shiveri and Nyunggu. *Oceania* 7 (2): 217–219.
- McConvell, P. 1990. The linguistic prehistory of Australia: Opportunities for dialogue with archaeology. *Australian Archaeological Association* 31: 3–27.
- McConvell, P. and Bowern, C. 2011. The prehistory and internal relationships of Australian languages. *Language and Linguistics Compass* 5(1): 19–32.
- McCracken, C.R. 1989. Some Aboriginal walking tracks and camp sites in Douglas Shire, north Queensland. *Queensland Archaeological Research* 6: 103–113.
- McDonald, J. 1994. Dreamtime Superhighway: An analysis of Sydney Basin rock art and prehistoric information exchange. PhD thesis, Australian National University, Canberra.
- McDonald, J. 1999. Bedrock notions and isochrestic choice: evidence for localised stylistic patterning in the engravings of the Sydney region. *Archaeology in Oceania* 34: 145–160.
- McDonald, J. 2008. *Dreamtime Superhighway: Sydney Basin Rock Art and Prehistoric Information Exchange*. Australian National University EPress, Canberra.
- McDonald, J. 2012. Pictures of women: The social context of Australian rock art production. In McDonald, J. and Veth, P. (Eds.) *A Companion to Rock Art*, Wiley-Blackwell Publishing, Oxford: 214–236.
- McDonald, J. and Clayton, L. 2016. Rock Art Thematic Study. Report to the Department of the Environment and the Australian Heritage Council. Centre for Rock Art Research and Management, University of Western Australia.
- McDonald, J. and Harper, S. 2016 Identity signalling in shields: how coastal hunter-gatherers use rock art and material culture in arid and temperate Australia. *Australian Archaeology* 82: 1–16.
- McDonald, J. and Veth, P. 2013. Rock art in arid Landscapes: Pilbara and Western Desert petroglyphs. *Australian Archaeology* (77): 66–81.
- McDonald, J. and Veth, P. 2012. The Social Dynamics of Aggregation and Dispersal in the Western Desert. In McDonald, J. and Veth, P. (Eds.) *A Companion to Rock Art*, Wiley-Blackwell Publishing, Oxford: 90–102.

- McGrath, P.F. 2016. *The Right to Protect Sites: Indigenous Heritage Management in the Era of Native Title*. AIATSIS Research Publications, Canberra.
- McGregor, R. 1997. *Imagined destinies. Aboriginal Australians and the doomed race theory*. Melbourne University Press, Melbourne.
- McGregor, R. 2016. Making the Rainforest Aboriginal: Tindale and Birdsell's foray into deep time. Greer, S., Henry, R. and Wood, M. (Eds.) *Transactions and transformations: artefacts of the wet tropics, North Queensland. Memoirs of the Queensland Museum* 10: 9-22.
- McGregor, R. and Fuary, M. 2016. Walter Edmund Roth: Ethnographer and Collector. Greer, S., Henry, R. and Wood, M. (Eds.) *Transactions and transformations: artefacts of the wet tropics, North Queensland. Memoirs of the Queensland Museum* 10: 43-58.
- McIntyre-Tamwoy, S., Cannendo, W. and Whyles-Whelan, T. 2010. Wet Tropics Traditional Owners Strategic Directions Workshop Report, Innisfail. James Cook University.
- McNiven, I. 1998. Enmity and amity: Reconsidering stone-headed club (gabagaba) procurement and trade in Torres Strait. *Oceania* 69(2): 94-115.
- McNiven, I., Brady, L., Barham, A. 2009. Kabadul Kula: and the antiquity of Torres Strait rock art. *Australian Archaeology* 69: 29-40.
- Meston, A. 1895. *Geographic History of Queensland. Dedicated to the Queensland people*. Government Printer, Brisbane.
- Meston, A., Bailey, F.M., Tryon, H. and Hedley, C. 1889. *Report of the Government scientific expedition to the Bellenden-Ker Range upon the flora and fauna of that Part of the Colony*. J.C. Beal, Government Printer, Brisbane.
- Mjöberg, E. 1918 (published 2015) *Amongst Stone Age people in the Queensland wilderness*. Ferrier, Å. and Ritchie, R. (Eds.) Hesperian Press.
- Morphy, H. 1989. From dull to brilliant: The aesthetics of spiritual power among the Yolngu. *Man* 24(1): 21-40.
- Morphy, H. 1995. Colonialism, history and the construction of place: The politics of landscape in Northern Australia. In Bender, B. (Ed.) *Landscape, Politics and Perspectives*, 2nd Ed. BERG, Oxford: 205-244.
- Morphy, H. 1999. Encoding the dreaming - a theoretical framework for the analysis of representational processes in the Australian Aboriginal art. *Australian Archaeology* 49: 13-22.

- Morwood, M. 1987. Comment Rock Art of the Koolburra Plateau, north Queensland. *Rock Art Research* 4 (2): 121-121.
- Morwood, M. 1990. The prehistory of the Upper Flinders River, North Queensland Highlands. *Queensland Archaeological Research* 7: 3-56.
- Morwood, M. 2002. *Visions from the past. The archaeology of Australia's Aboriginal art*. Allen and Unwin, Crows Nest, NSW.
- Morwood, M. and Fillery, B. 1976. Carved Trees in Queensland. *Occasional Papers in Anthropology* 6: 97-107.
- Morwood, M. and Hobbs, D. 1995. *Quinkan prehistory: the archaeology of Aboriginal art in S.E. Cape York Peninsula*. University of Queensland, Brisbane.
- Morwood, M. and Smith, C. 1994. Rock art research in Australia 1974-94. *Australian Archaeology* 39: 19-38.
- Moss, P., Cosgrove, R., Haberle, S.G. and Ferrier, Å. 2012. Holocene environments of the sclerophyll woodlands of the Wet Tropics of northeastern Australia. In Haberele, S.G. and David, B. (Eds.) *Peopled Landscapes: Archaeological and Biogeographic Approaches to Landscapes Terra Australis* 34, Australian National University Press, Australian Capital Territory: 329 – 341.
- Moss, P. T. and Kershaw, A.P. 2000. The last glacial cycle from the humid tropics of northeastern Australia: comparison of a terrestrial and marine record. *Palaeogeography, Palaeoclimatology, Palaeoecology* 155: 155–176.
- Mowljarlai, D. 1992. Ngarinyin Perspective of Repainting: Mowljarlai's Statement. G.K. Ward (Ed.) *Retouch: Maintenance and Conservation of Aboriginal Rock Imagery, Proceedings of Symposium O. AURA Congress, Darwin 1988, Occasional AURA Publication* 5: 8-9.
- Mowljarlai, D. and Peck, C. 1987. Ngarinyin cultural continuity: a project to teach the young people the culture, including the re-painting of Wandjina rock art sites. *Australian Aboriginal Studies* 2: 71-78.
- Mulvaney, D. 1981. What Future for our Past? Archaeology and Society in the Eighties. *Australian Archaeology* 13: 16-27.
- Mulvaney, K. 2013. Iconic imagery: Pleistocene rock art development across northern Australia. *Quaternary International* 285: 99-110.

Namono, C. 2012. Dumbbells and circles: Symbolism of Pygmy rock art of Uganda. *Journal of Social Archaeology* 12(3): 404-425.

Nursery-Bray, M. 2006 Conflict to Co-Management: Eating our Words. Towards Socially Just Conservation of Green Turtles and Dugongs in the Great Barrier Reef, Australia. PhD thesis. James Cook University, Townsville.

O'Connor, S., Balme, J., Fyfe, J., Oscar, J., Oscar, M., Davis, J., Malo, H., Nuggett, R. and Surprise, D. 2013. Marking resistance? Change and continuity in the recent rock art of the southern Kimberley, Australia. *Antiquity* 87: 539-554.

O'Connor, S., Barham, A. and Woolagoodja, D. 2008. Painting and repainting in the West Kimberley. *Australian Aboriginal Studies* 1: 22-38.

Odgen, J. 1981. Dendrochronological Studies and the Determination of Tree Ages in the Australian Tropics. *Journal of Biogeography* 8(5): 405-420.

Officer, K. 1992. The Edge of the Sandstone: Style Boundaries and Islands in South-eastern New South Wales. In McDonald, J. and Haskovek, I. (Eds) *State of the Art: Regional Rock Art Studies in Australia and Melanesia Occasional AURA Publication No 6*: 6-14.

'Our Neighbours' 1885. *Cairns Post*, June 11, p2. Retrieved 4 October 2013 from <http://trove.nla.gov.au/newspaper/article/39422954?searchTerm=egyptian%20hieroglyph%20cairns%20post&searchLimits=> .

Palmer, K. and Ganesharajah, C. 2009. *Societies, communities and native title*. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Palmerston, C. 1887. *The Diary of a Northern Pioneer: Christie Palmerston's Experiences*. Queensland Figaro, Brisbane.

Pannell, S. with contributions from Ngadjon-Jii Traditional Owners 2006. *Yamani country: A spatial history of the Atherton Tableland, North Queensland*. Rainforest CRC, James Cook University, Cairns.

Pannell, S. 2008. Aboriginal cultures in the wet tropics. *Living in a dynamic tropical forest landscape*. Stork, N. and Turton, S. (Eds.) Blackwell Publishing: 59-71.

Patz, E. 1991. Djabugay. *The Handbook of Australian Languages Vol 4* Dixon, R.M.W. and Blake B.J. (Eds.) Oxford University Press, Melbourne: 245-347.

Pert, P., Hill, R., Maclean, K., Dale, A., Rist, P., Schmider, J., Talbot, L. and Tawake, L. 2015. Mapping cultural ecosystem services with rainforest Aboriginal peoples: Integrating biocultural diversity, governance and social variation. *Ecosystem Services* 13: 41-56.

Porr, M. and Bell, M. 2011. 'Rock-art', 'animism' and two way thinking: Towards a complementary epistemology in the understanding of material Culture and 'rock-art' of hunting and gathering people. *Journal of Archaeological Method and Theory* 19: 161-205.

Pragnell, J., Ross, A. and Coghill, B. 2010. Power relations and community involvement in landscape-based cultural heritage management practice: an Australian case study. *International Journal of Heritage Studies* 16(1-2): 140-155.

Purcell, L., Briggs, R. and Sutherland, M., 2011. Carved trees Aboriginal cultures of Western NSW (Exhibition Catalogue). In H. Cummings, (Ed.) *State Library of NSW Exhibition 18 April - 26 June 2011*. Sydney, NSW.

Quinn, M. 1992. *Djabugay: a Djabugay-English dictionary*. Department of Education Queensland, Kuranda.

Quinn, M. 2012. *Ngirrma Djabugay. A Djabugay Language Dictionary*. Buda:Dji Aboriginal Development Corporation, Kuranda.

Ray, D. 2006. An account of a visit to a cave with native drawings, on the new road to the Etheridge from Cardwell by the Governor Normanby, Queensland Governor 1872. Unpublished manuscript, Cairns Historical Society (D21501).

Reid, N., Nunn, P. and Sharpe, M. 2014. September. Indigenous Australian stories and sea-level change. *Proceedings of the 18th Conference of the Foundation for Endangered Languages (FEL): Indigenous Languages: Value to the Community*, Okinawa, Japan: 17-20.

Review Steering Committee. 1998. The Review of Aboriginal Involvement in the Management of the Wet Tropics World Heritage Area: Thematic Presentation of the 14 Terms of Reference or "Which Way our Cultural Survival," Cairns.

Richards, R. 2007. *Manu Moriori: Human and bird carvings on live Kopi trees on the Chatham Islands*. Paremata Press, Wellington.

Roberts, P. and Petraglia, M. 2015. Pleistocene rainforests: barriers or attractive environments for early human foragers? *World Archaeology* (August): 1-22.

Robinson, B. 2009. The Djumbinji Story. *Sting in the Tail*. KickArts Contemporary Arts, Cairns.

- Roth, W.E. 1901-1910. *North Queensland Ethnographic Bulletins 1-18*, Government Printer, Brisbane.
- Roth, W.E. 1910. The Queensland Aborigines Volume III. *Aboriginal Studies Series* No. 4. Hesperian Press, Western Australia.
- Ross, A. 1996. More than archaeology: New directions in cultural heritage management. *Queensland Archaeological Research* 10: 17–24.
- Ross, A. 2010. Defining cultural heritage at Gummungurru, Queensland, Australia. In Allen, H. and Phillips, C. (Eds.) *Bridging the divide: Indigenous communities and archaeology into the 21st Century*. Left Coast Press, Walnut Creek: 107-128.
- Ross, J. 2012. A continent of nations: The emergence of new regionally distinct rock art styles. *Quaternary International* 285: 161–171.
- Ross, J. and Davidson, I. 2006. Rock art and ritual: An archaeological analysis of rock art in arid Central Australia. *Journal of Archaeological Method and Theory* 13(4): 304–340.
- Rule, T. 2010. The Enigma of the Australian Pygmies. *Quadrant* 54 (12): 26-29.
- Sackett, J.R. 1977. The Meaning of Style in Archaeology: A General Model. *American Antiquity* 42(3): 12.
- Sackett, J.R. 1982. Approaches to style in lithic archaeology. *Journal of Anthropological Archaeology* 1(1): 59–112.
- Sackett, J.R. 1985. Style and ethnicity in the Kalahari: A reply to Wiessner. *American Antiquity* 50(1): 154–159.
- Sackett, J.R. 1990. Style and ethnicity in archaeology: The case for isocrestism. In Conkey, M.W. and Hastorf, C.A. (Eds.) *The Uses of Style in Archaeology*. Cambridge University Press: 32–43.
- Savage, P. 1989. *Christie Palmerston, explorer*. Department of History and Politics, James Cook University, Townsville.
- Schaafsma, P. 2014. Supper or symbol: Roadrunner tracks in southwest art and ritual. In Morphy, H. (Ed.) *Animals into Art*. Routledge, London and New York.
- Schnukal, A. 2008. The last battle of Mua: eleven texts. *Memoirs of the Queensland Museum, Cultural Heritage Series* 4(2): 35-59.
- Seaton, D. 1951. Legend of the Big Rock. *The North Queensland Naturalist* 20(99).

- Seaton, D. 1952a. Rock paintings in the Brown Bay area, North Queensland. *The North Queensland Naturalist*, XX (103), 35–37.
- Seaton, D. 1952b. Rock paintings of the Konkanji people. *The North Queensland Naturalist*, xx(101): 19.
- Seaton, D. no date. Silver Valley, north Queensland, rock paintings. Unpublished manuscript held at Australian Institute of Aboriginal and Torres Strait Islander Studies (PMS 1547).
- Seaton, D. 1953. Irukandji Legends of the Big Tree near the Yarrabah Track, Brown Bay, North Queensland. *The North Queensland Naturalist* Vol xxi: 104.
- Shackel, P.A. and Little, B.J. 1986. Post-processual approaches to meanings and uses of material culture in historical archaeology. *Historical Archaeology* 26: 5–11.
- Simmons, D. R. 1980. Some dendroglyph styles in the Chatham Islands. *Records of the Auckland Institute and Museum* 17: 49–63.
- Skeene, G. 2008. *Two Cultures: Children from the Camps and Reserves in Cairns City*. Rams Skull Press, Kuranda.
- Smith, C. 1992. Colonising with style: reviewing the nexus between rock art, territorially and the colonisation and occupation of Sahul. *Australian Archaeology* 34: 34–42.
- Smith, C. 1999. Ancestors, place and people; social landscapes in Aboriginal Australia. In Ucko, P. and Layton, R. (Eds.) *The archaeology and anthropology of landscape: shaping your landscape*. One World Archaeology, Routledge, London: 189–205.
- Smith, C. 2010. Panache and protocol in Australian Aboriginal art. In Domingo, I.S. Fiore, D. and May, S.K. (Eds.) *Archaeologies of Art*. Left Coast Press, Walnut Creek, California: 215–241.
- Smith, L. 1995. What is this thing called postprocessual archaeology... and is it relevant to Australia. *Australian Archaeology* 40: 28–32.
- Smith, C. and Jackson, G. 2008. The Ethics of Collaboration Whose Culture? Whose Intellectual Property? Who Benefits? In Colwell-Chanthaphonh, C. and Ferguson, T.J. (Eds.) *Collaboration in Archaeological Practice: Engaging Descendent Communities*. AltaMira Press, Walnut Creek, California: 171–191.
- Smith, C. and Wobst, M. 2005. Decolonizing archaeological theory and practice. In Smith, C. and Wobst, M. (Eds.) *Indigenous Archaeologies One World Archaeology* Vol 47, Routledge, London: 5–16.

Solomon, M. and Thorpe, S. 2012. Taonga Moriori: Recording and revival. *Journal of Material Culture* 17(3): 245–263.

Spennemann, D. 2015. The disappearing goanna: Twenty years of accelerated callus growth obscuring the design of a carved tree, Mungabareena Reserve, Albury (NSW). *Institute for Land, Water and Society Report No. 87*. Albury, NSW, Institute for Land, Water and Society, Charles Sturt University.

Stork, N., Goosem, S. and Turton, S.M. 2008 Australian rainforests in a global context. In Stork, N. and Turton, S. (Eds.), *Living in a Dynamic Tropical Forest Landscape*. Blackwell Publishing, Oxford: 4-20.

Strang, V., 2010. Uncommon Ground: Landscape as Social Geography. In David, B. and Thomas, J. (Eds.) *Handbook of Landscape Archaeology*. Left Coast Press Walnut Creek, California: 51–59.

Sutton, P. 1973. Gugu-Badhun and its neighbours: a linguistic salvage study. Master of Arts (Hons) School of English Studies, Macquarie University.

Sutton, P. 2016. The Flinders Islands and Cape Melville people in history. In J.C. Verstraete and D. Hafner, eds. *Land and Language in Cape York Peninsula and the Gulf Country*. Amsterdam/Philadelphia: John Benjamins Publishing Company: 85-104.

Sutton, P. and Koch, H. 2008. Australian languages: a singular vision. *Journal of Linguistics* 44: 471-504.

Taşon, P. 1993. Regionalism in the recent rock art of Western Arnhem Land, Northern Territory. *Archaeology in Oceania* 28(3): 112–120.

Taşon, P. 1994 Interpreting the in-between: Rock art junctions and other small style areas between provinces. *Time and Mind* 6(1): 73-80.

Taşon, P. 1989. From rainbow snakes to 'X-ray' fish: the nature of the recent rock painting tradition of Western Arnhem Land, Australia. PhD thesis, Australian National University, Canberra.

Taşon, P., Li, G., Yang, D., May, S.K., Liu, H., Aubert, M., Ji, X., Curnoe, D. and Herries, A.I.R. 2010. Naturalism, nature and questions of style in Jinsha River rock art, northwest Yunnan, China. *Cambridge Archaeological Journal* 20(1):67-86.

Taşon, P. 1994 Socialising landscapes: implications and marks on the land symbols. *Archaeology in Oceania* 29(3):117-129.

- Taçon, P. and Brady, L.M. 2016 The place of rock art in the contemporary world. Brady, L.M. and Taçon, P.S. (Eds.). *Relating to Rock Art in the Contemporary World: Navigating Symbolism, Meaning, and Significance*. University Press of Colorado: 3-14.
- Taçon, P. and Chippindale, C. 1998. An archaeology of rock art through informed methods and formal methods. In Chippindale, C. and Taçon, P. (Eds.) *The Archaeology of Rock Art*. Cambridge: Cambridge University Press: 1-10.
- Taçon, P., Wilson, M. and Chippindale, C. 1996. Birth of the rainbow serpent in Arnhem Land rock art and oral history. *Archaeology in Australia*: 103-124.
- Talbot, L.D. 2005. Indigenous Land Management Techniques of the Djabugay People. Cairns: Masters thesis, James Cook University.
- Talbot, L.M., Turton, S.M., and Graham, A.W. 2003. Trampling resistance of tropical rainforest soils and vegetation in the wet tropics of north east Australia. *Journal of Environmental Management*, 69(1): 63-69.
- Thomson, D. 1957. Sivorri and Kwoiam: a culture hero from Western Cape York who invaded Torres Strait and died a warrior hero. *Walkabout* 53 (1): 16-18
- Thompson, J. 1989. *Reaching Back. Queensland Aboriginal people recall early days at Yarrabah Mission*. Aboriginal Studies Press, Canberra.
- Tilley, C. 1991. *Material Culture and Text: The Art of Ambiguity*. Routledge, New York.
- Tilley, C. 1995. Art, architecture, landscape (Neolithic Sweden). In Bender, B. (Ed.) *Landscape, Politics and Perspectives*, 2nd Ed. BERG, Oxford: 49-84.
- Tilley, C. 2004. Mind and Body in Landscape Research. *Cambridge Archaeological Journal* 14(1): 77-80.
- Tilley, C. 2008. Review Feature - Material Culture and Text: The Art of Ambiguity. *Cambridge Archaeological Journal* 3(1): 110-112.
- Tindale, N. 1952. Rock paintings of Cairns area, North Queensland. *North Queensland Naturalist* 20(102): 25-28.
- Tindale, J. and Birdsell, J.B. 1941. Results of the Harvard - Adelaide Universities Anthropological Expedition 1938-39: Tasmanoid Tribes in North Queensland. *Records of the South Australian Museum* 7: 1-9.

- Toohy, E. 2000. *Before the Aeroplane Dance*. Central Queensland University Press, Rockhampton.
- Tracey, J.G. 1982. *The vegetation of the humid wet tropics*. CSIRO, Melbourne.
- Treize, P. 1993. *Dream Road, a Journey of Discovery*. Allen and Unwin, St Leonards, NSW.
- Treize, P. and Wright, R. 1966. The durability of rock-paintings on Dunk Island, Northern Queensland. *Mankind* 6(7): 320–324.
- Tuechler, A., Ferrier, A. and Cosgrove, R. 2014. Transforming the inedible to the edible: An analysis of the nutritional returns from Aboriginal nut processing in Queensland's Wet Tropics. *Australian Archaeology* 79: 26-33.
- Tucker, R.M. 1972. Geological Notes on the Hodgkinson Basin. *Field Conference to the Atherton Tableland Hodgkinson Basin June 10-12, 1972*. Geological Society of Australia, Queensland Division: 10-13.
- Turner, N.J., Ari, Y., Berkes, F., Davidson-Hunt, I., Ertug, Z.F. and Miller, A., 2009. Cultural management of living trees: an international perspective. *Journal of Ethnobiology* 29(2): 237-270.
- Turney, A., Kershaw, P., Moss, M., Bird, L.K., Fifield, R., Cresswell, G., Santos, M., Di Tada, P., Hausladen, Y. and Zhou, C.S.M. 2001. Redating the onset of burning at Lynch's Crater (North Queensland): implications for human settlement in Australia. *Journal of Quaternary Science* 16(8): 767–771.
- Vanclay, J. K. 1991. Aggregating tree species to develop diameter increment equations for tropical rainforests. *Forest Ecology and Management* 42(3-4): 143–168.
- Van Toorn, P. 2014. Slave Brands or Cicatrices? Writing on Aboriginal Skin in Tom Petrie's Reminiscences of Early Queensland. *Biography* 31(2): 223-244.
- Verstraete, J.C. and Hafner, D. 2016. Land and Language in Cape York Peninsula and the Gulf Country. In Verstaete, J.C. and Hafner, D. (Eds.) *Land and Language in Cape York Peninsula and the Gulf Country*. D. John Benjamins Publishing Company, Amsterdam/Philadelphia: 1-26.
- Walsh, G. 1986. Preliminary Report Archaeological Sites of the Bare Hill Area, Atherton Tableland, Queensland. Report to Queensland parks and Wildlife Service.
- Walsh, G. 1992. Rock art retouch: Can a claim of Aboriginal descent establish curation rights over humanities cultural heritage? M.J. Morwood and D.R. Hobbs (Eds.) *Rock Art and Ethnography. Proceedings of the Ethnography Symposium (H)*. AURA Congress, Darwin 1988, Occasional AURA Publication 5: 31-38.

Ward, G.K. 1992 The "Retouch" Symposium of the First AURA Congress, Darwin: An Introduction. G.K. Ward (Ed) *Retouch: Maintenance and Conservation of Aboriginal Rock Imagery, Proceedings of Symposium O. AURA Congress, Darwin 1988*, Occasional AURA Publication 5: 1-7.

Ward, I., Patterson, C. and Watchman, A. 1999. The Environment and Condition of Multi-Layered Aboriginal Paintings at Kennedy-A in the Wet Tropics, North Queensland. *Rock Art Research* 16(1): 25-35.

Watchman, A. and Cole, N. 1993. Accelerator radiocarbon dating of plant fibre binders in rock paintings from northeastern Australia. *Antiquity*, 67: 355-359.

Wet Tropics Aboriginal Cultural and Natural Plan Project Team, 2005. Caring for Country and Culture: The Wet Tropics Aboriginal Cultural and Natural Resource Management Plan, Rainforest CRC and FNQ NRM Ltd.

White, M. 1994. *The Greening of Gondwana*. 2nd Edition. Reed, Chatswood.

Wiessner, P., 1984. Reconsidering the behavioural basis for style: A case study among the Kalahari San. *Journal of Anthropological Archaeology* 3(3): 190-234.

Wiessner, P. 2008. Style and Social Information in Kalahari San Projectile Points. *American Antiquity* 48(2): 253-276.

Williams, A.N., Mooney, S.D., Sisson, S.A. and Marlon, J. 2015. Exploring the relationship between Aboriginal population indices and fire in Australia over the last 20,000 years. *Palaeogeography, Palaeoclimatology, Palaeoecology* 432: 49-57.

Willmott, W. 2009. *Rocks and landscapes of the National Parks of Queensland*. Geological Society of Australia, Queensland Division, Brisbane.

Winn, N. 2016. Boundaries, connections and cultural heritage management challenges: The rock art of the Chillagoe - Mungana limestone belt, Queensland, Australia. P.hd. thesis, Griffith University.

Winn, N and Buhrich, A. 2014 Melody Rocks Cultural Heritage Assessment. Report to Bulgan Warra Traditional Owners.

Wobst, M. 1977. Stylistic Behaviour and Information Exchange. In *Papers for the Director: Research Essays in Honour of James B. Griffin*. *Anthropology Papers* 61:317-342.

Wobst, M. 1999. Style in archaeology or archaeologists in style. In Chilton, E.S. (Ed.) *Material Meanings: Critical Approaches to the Interpretation of Material Culture*. University of Utah Press: 117–132.

Wood, R. 2016a. The problem of “tribal names” in eastern Australia, The Kuku Yalanji example. In Verstaete, J.C. and Hafner, D. (Eds.) *Land and Language in Cape York Peninsula and the Gulf Country*. D. John Benjamins Publishing Company, Amsterdam/Philadelphia: 337–360.

Wood, M. 2016b. Dudley Bulmer’s Artefacts as Autobiography. S. Greer, R. Henry, R and M. Wood (Eds.) Transactions and transformations: artefacts of the wet tropics, North Queensland. *Memoirs of the Queensland Museum* 10:77-92.

Woolston, F. and Colliver, F.S. 1975. The Wildsoet Interview - Some recollections of the Aborigines of the Tully area. *Queensland Heritage* 3(3): 3–14.

Woolston, F. P., Colliver, F. S., Christian, M., Botte, M.P. and Fraser, H. 1967. Christie Palmerston - A North Queensland pioneer, Prospector and Explorer. *Queensland Heritage* 1(7): 30–34.

Wright, R.V.S. 1971. Prehistory in the Cape York Peninsula. In DJ. Mulvaney & J. Golson (Eds), *Aboriginal Man and Environment in Australia*, Australian National University Press, Canberra: 133-40.

Appendices

A1 Site pro forma

Rock art Site Name.....

Date.....

| | |
|---|--|
| Nearest feature (town, river, road etc) | |
| TO Group | |
| TO Contact | |
| Access | |

ENVIRONMENT

| | |
|--|--|
| Geological substrate (circle): | |
| Granite Metamorphic Sandstone Other | |
| Drainage system (river): | |
| Environment (circle): | |
| Dry schlerophyll Wet schlerophyll Closed forest Other | |
| Location: | |
| Outcrop Escarpment Hill slope River terrace Other..... | |
| Description: | |

PRESERVATION

| |
|--------------------------|
| Good Fair Poor |
| Describe: |

MANAGEMENT

| |
|------------------------------|
| Management systems in place: |
|------------------------------|

| | | | |
|-----------------------------|---------|---------|-----------------|
| Management Issues: | | | |
| Visitors | Insects | Animals | Natural erosion |
| Describe: | | | |
| Management recommendations: | | | |

TO COMMENTS

| |
|--|
| |
|--|

EXISTING RECORDS / REPORTS

| |
|--|
| |
|--|

| | |
|--|--|
| Location (Dendroglyph Site name) | |
| Recorder / Date | |
| DBH | |
| Description of carving <ul style="list-style-type: none"> • General shape • No. of marks on tree | |
| Direction faces | |
| Dimensions of carving <ul style="list-style-type: none"> • Max • Med • Min | |

| | |
|---|--|
| Distance between ground and bottom of carving | |
| Depth of carving (not on sketch overleaf where measurement taken) <ul style="list-style-type: none"> • Max • Med • Min | |
| Preservation Issues Carving <ul style="list-style-type: none"> • Insects • Bark rot • Bark regrowth • Other | |
| General tree health <ul style="list-style-type: none"> • Insects • Vertical cracks in bark • % of crown remaining | |
| General Forest health <ul style="list-style-type: none"> • Weeds, undergrowth, health of surrounding trees, tree falls etc. | |
| TO comments (who said what) | |

Sketch of each carving

- Mark general dimensions
- Placement on tree
- Where measurements were taken

A2 Motif pro forma

Motif Name / Number.....

Site

Name.....

Brief Description:

Scale:

Major

Medium

Minor

Length:

Width:

Technique:

Painting

Stencil

Engraving

Dry pigment

Other.....

Superimposition:

Over

Under

Neither

Both

Colour:

Red

White

Yellow

Black

Orange

Purple

Other.....

Monochrome

Bichrome

Polychrome

Infill:

Placement:

Direction faces:














Ceiling Wall Other.....



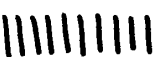










Right Left Inverted Other

TO Comment:







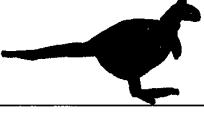



A3 Motif labels










Non-figurative

| Label | Description | Example |
|--------------------------|--|---|
| Arc | Line bent at acute angle |  |
| Opposing arcs | Two arcs pointing towards each other |  |
| Non-opposing arcs | Two arcs pointing away from each other |  |
| Parallel arcs | More than one arc repeated above or below another arc |  |
| Circle | Circular shape, can be infilled or empty |  |
| Concentric circles | More than one circle inside another circle |  |
| Circle – radiating lines | Circle with lines radiating from it |  |
| Semi circle | Half circle |  |
| Oval | Oval shape, can be infilled or empty |  |
| Barred oval | Oval with internal stripes |  |
| Oval radiating lines | Oval with lines radiating from it |  |
| Linear | Motif consisting of lines, can be single or multiple lines |  |
| Closed linear shape | Lines which meet to make an enclosed shape |  |

| | | |
|---------------------------|---|---|
| Panel of dots | Group of dots in same colour and size |  |
| Enclosed panel of dots | As above with line around them |  |
| Parallel vertical line | Row of lines in vertical position |  |
| Chevron | Repeated 'V' shape (zigzag) |  |
| Trident | 3 pronged linear design |  |
| Star shape | 5 pointed motif in shape of a star |  |
| Barred comb | Semi-circular shape with parallel lines on one side |  |
| Herringbone | Pattern of 2 groups of parallel lines at different angles |  |
| Hooked stick | Line with 'U' shape at one end |  |
| X | Two intersecting lines |  |
| Blob | Solid amorphous shape |  |
| Blob with radiating lines | As above with lines radiating from blob |  |
| Abstract shape | Shape that doesn't fit into a category | |
| Foot shape | Solid oval with row of small digits at one end |  |

Figurative

| Label | Description | Example |
|----------------------|--|---|
| Anthropomorph | Human shape with torso, head, arms and legs |  |
| Male anthropomorph | As above with appendage between legs |  |
| Female anthropomorph | Anthropomorph with female characteristics (e.g. breasts) |  |
| Zoomorph | Animal shape | |
| 4 legged zoomorph | Animal shape with 4 legs extending from torso | |
| Dingo | As above with pointed ears and tail pointing up |  |
| Bird | 2 legged zoomorph with small head and bird like tail |  |
| Cassowary | As above with long legs, small or no wings and large body |  |
| Macropod | Zoomorph in shape of kangaroo with long tail extending behind animal and long pointed feet |  |
| Lizard | Zoomorph with torso, arms, legs, head and long tail |  |
| Frog | Torso, head, bent arms and legs, no tail |  |
| Possum | Identified by custodians, small head, fat body and long tail | |
| Echidna | Identified by custodians, large rounded body with four legs and small head and tail |  |

| | | |
|-----------------|---|---|
| Insect | Identified by custodians, extended body and 6-8 legs | |
| Eel | Elongated body with two flaps either side of head |  |
| Snake | Long with fatter head at one end, no arms or legs |  |
| Yam | Blob with one or more (usually long) lines extending from the top |  |
| Boomerang | Short, thick angled line identified by custodians as boomerang |  |
| Cross boomerang | Two short intersecting lines identified by custodians |  |
| Clap sticks | Two short, thick parallel lines. Identified by custodians, placed in front of hands |  |
| Shield | Oval shape with internal decoration |  |
| Spear | Long, straight line emanating from an animal. Identified by custodians |  |
| Barbed spear | As above with row of short parallel lines at one end |  |

A4 List of Interviewees

| Name | Location | Date |
|----------------------|---------------------------------|---------------------------|
| Betty Cashmere | Koomboloomba and Ravenshoe | October 2013, July 2015 |
| Ernie Grant | Grant residence, Tully | August 2014, July 2105 |
| Steve Purcell | Palmerston, field and house | August 2014, October 2015 |
| Willie Brim | Field and Brim residence, Myola | September 2014 |
| Alf Joyce | Palmerston, field and house | August 2015, October 2015 |
| Paul Bong | Cairns | June 2016 |
| Alwyn Lyall | Lakeland | September 2015 |
| Brad Go Sam | Silver Valley | June 2014, April 2017 |
| Gudju Gudju Fourmile | Woree | November 2015 |

A5 Identifying a dendroglyph in the rainforest

My work has helped to get an understanding of the patterns in dendros, which in turn helps identify a scar as cultural or natural. The key to identifying rainforest dendroglyphs is to understand their attributes. There appears to be patterns in the species of tree, the location of the carving on the trunk, the relationship of the site to other factors such as proximity to Aboriginal walking tracks, the association with permanent water and the presence of other cultural material or significant Aboriginal sites.

Tree species

Dendroglyphs are recorded only on certain tree species – black walnut, yellow walnut, candlenut, kauri pine, silky oak and McIntyre box. Although it is entirely possible that future dendroglyphs may be found on trees not included in this list, the presence of carvings on trees known to be carved supports their identification as dendroglyphs.

Age of the tree

Older than 100 years, not necessarily massive trees. History of the immediate environment – has it been logged or otherwise cleared of vegetation.

Shape and size of the scar

Key differences between natural and cultural scars are the shape, size and location of the scar. Insects, branch falls, vines, lightning and limb loss cause natural scars (Long 2003) (see Table A5.1). Scars caused by lightning, branch tears, birds and impact damage tend to be irregular shapes, unlike Aboriginal scars, which have a more regular form, for example, note the uneven shape of the scar resulting from a fallen branch in Figure A5.1. Culturally modified scars rarely extend to ground level, unlike lightning and fire damage (Long 2003). Small holes into the trunk are evidence of larval damage or termite activity. Natural scars tend to be irregular shapes, can extend to ground level and can damage heartwood, none of these characteristics are observed in rainforest dendroglyphs.

Table A5.1 Possible scars caused by natural causes (Long 2003)

| Cause | Description |
|-------------------------|---|
| Lightning | Thin elongated scars extending down the length of the tree usually widening towards the base and often surviving around the trunk |
| Branch tears | Characteristic keyhole or 'tear' shaped socket |
| Larval activity | Presence of grub holes and tracks, often near the base of the tree and often extending to ground level. Scars usually irregular shape |
| Termite activity | Insect holes on face of scar, lightly weathered surface |

| | |
|----------------------|---|
| Bird damage | Irregular shape, small - medium size, generally wider than they are long |
| Fire | Distinctive triangular shape with wide base at ground level, adjacent trees also affected |
| Impact damage | Irregular shape and damage to heartwood |



Figure A5.1 This scar is made by a falling branch, note the uneven edge of the scar.

Marks from vines

Vines play an important role in shaping the rainforest environment and can be observed winding around tree trunks from the rainforest floor to the canopy. As trees trunks grow the force from vines can cause a strangulation of the tree, as observed in Figure A5.2. There are key differences between the parallel lines made by vines and those made by Aboriginal people

- vine scars are angled while dendroglyphs are parallel to ground level
- carved parallel lines are clustered together while vine marks can be at random points around the trunk
- carved parallel lines are regular widths while vine scars are variable in width.



Figure A5.2 Natural tree scar made by vines which once grew around the trunk. These are distinguishable from Aboriginal carvings because they wrap around most of the trunk and are slanting upwards, unlike dendroglyphs which are a group of lines equal in length and parallel to the ground.

Height above ground level

Most carvings are made between 0.8 and 1.2 metres above ground level, although there are two significant exceptions. The Mount Windsor dendroglyph starts at 4.5 metres above ground level and is over 1 metre high and a carving at Tchuken bora ground was reported at a similar height (Seaton n.d.). It is often assumed that a dendroglyph observed high in the trunk of a tree was carved lower to the ground and rose as the tree grew, but this is false. Dendroglyphs remain at relatively the same height at which they were carved. At their base, trees do not grow higher, but thicker. This is important as it means that a carving made into the trunk of a mature tree stays on the same place relative to ground level as the tree ages.

Orientation

There is no apparent pattern to the orientation which a carving faces. The cluster of thirteen dendroglyphs on seven trees at Charappa, for example, face north, south, east, west, southwest and northnorthwest.

Association with other cultural sites

Often on walking tracks, sometimes associated with camp sites, stone tools or other cultural material found nearby. Broken European bottle glass found at two sites.

Key questions

To summarise, the following questions are useful in determining a rainforest dendroglyph:

- How old is the tree?
- Could the scar be natural?
- Are carvings known on this species?
- Are there other Aboriginal sites nearby?

If the tree on which the suspected carving is found is over 100 years, associated with other Aboriginal sites, on one of the known species used for carving and does not appear to be a product of vine strangulation, insect attack or regular bark growth, it is potentially an Aboriginal dendroglyph.

